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VOL. XIV.—1899.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY;

AN ANALYTICAL RECORD OF CURRENT LITERATURE

RELATING TO

THE THROAT, NOSE, AND EAR.

PUBLISHED MONTHLY.



London:

REBMAN, LIMITED,
129, SHAFTESBURY AVENUE, CAMBRIDGE CIRCUS, W.C.

ENTERED AT STATIONERS' HALL.

THE JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Founded in 1887 by MORELL MACKENZIE *and* NORRIS WOLFENDEN.

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THE JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Original Articles are accepted by the Editors of this Journal on the condition that they have not previously been published elsewhere.

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Editorial Communications are to be addressed to "Editors of JOURNAL OF LARYNGOLOGY, care of Rebman Publishing Company, Limited, 129, Shaftesbury Avenue, Cambridge Circus, London, W.C."

RETROSPECT.

WHILE it cannot be said that the past year has been signalized by the announcement of any great discovery either in etiology or therapeutics, nevertheless, a review of the literature shows the same great activity which has distinguished laryngologists for a considerable number of years. A glance at the work done in our societies will show that the clinical aspect has received due attention, and in our country excellent work has been done in the London Laryngological Society. The reader will specially note with satisfaction earnest consideration of the great questions involved in the early detection and treatment of such acute affections as diphtheria and septic conditions of the upper respiratory passages; while in chronic ailments, particularly malignant disease, tubercle, and nervous affections, satisfactory progress has also been made. No doubt many popular theories have been seriously questioned and criticised; and we are not without evidence in some directions of a tendency of some writers to recanting somewhat the views at first held in such important questions as the serum treatment. We have been treated to masses of statistics, and told, on one hand, that the serum has almost suppressed mortality in diphtheria, and, on the other, that since this treatment began the mortality is as high as ever. Notwithstanding these conflicting reports, steady progress has been made, and in time the vexed questions will be settled and apparent discrepancies explained. What we do note with satisfaction in the literature is the care with which practitioners are aiming at early detection of disease, as evidenced not only by clinical reports, but by the establishment of laboratories in great centres of population where the practitioner may at the

earliest moment get the all-important assistance. A feature in last year's progress is to be noted in the great use which has been made of such laboratories; and what is said of acute disease, we are pleased to see is also true of chronic affections. We have steady records of improvements in instruments, diligent search for newer remedies and anæsthetics; and, generally, it may be said that the practice of laryngology is tending more and more toward a higher and scientific level. The reports of the different congresses held in the various parts of the world are also satisfactory; and in our own country, the meeting of the British Medical Association held in Edinburgh proved to be a great success. In our special department, a notable feature was a discussion upon the mutual relationship and relative value of experimental and clinical research. While this at first seems a somewhat broad question to introduce to a special section, and one which might have been discussed in any branch of surgery or medicine, yet laryngology offers quite a suitable field for its discussion. When we come to think of the many acute and chronic general affections which are not only found in the larynx, but sometimes earliest of all in the larynx, and when we reflect upon the many conditions of grave disease of deeper-seated tissues—notably the thorax—which first become evident by interference with the physiological action of the larynx, we are more than ever impressed with the suitability of such a discussion. In no department of surgery, moreover, has there been more active experimental research, and in none has it been more difficult to estimate the true value of each method. That there has been a tendency in many quarters to over-estimate the work in the laboratory cannot be doubted; and while no one seeks to depreciate the great results of experimental research, it is only fair that the relative values to be attached to each should be known. The discussion in Edinburgh on this question will therefore prove of great value, and the able introduction by Sir Felix Semon has contributed very materially in this direction.

An excellent summary of many of the questions, viewed from the English reader's standpoint, will be found in Dr. Dundas Grant's presidential address to the British Laryngological Association, published in the January number of our Journal. The relationship between disease of the larynx and mischief in the upper cavities has been more thoroughly established during the past year than at any previous time. The great question of malignant disease of the larynx, with special reference to its treatment, is still being earnestly discussed; but in this country, at least, there is a growing tendency to the appreciation of early

interference by way of thyrotomy. If it cannot be said that great additional knowledge has been made to the therapeutics of tubercular affections, nevertheless the question is also engaging the attention of many laryngologists, and the relative values of the different methods of treatment are becoming better understood. Nervous affections of the larynx have been studied with greater zeal than ever, and in the April number of our Journal we called attention to the most recent attacks upon one of the great questions involved in this section—viz., the proclivity of abductors in organic disease. In this article we requested special information upon clinical and more particularly pathological tests for or against the theory referred to, but it cannot be said, since Grossman's writings, that anything of moment has been revealed which would tend to support his views. Cartaz has shown us that affections such as glioma of the spinal cord may, like other affections of this organ, cause mischief in the larynx.

The literature of our department has been enriched by some excellent work, and in this country the student or practitioner has no difficulty in obtaining a satisfactory guide to the affections of our special department. The latest addition to our English textbooks is by Mr. Lennox Browne, aided by Messrs. Mayo Collier and Wyatt Wingrave and the late Dr. Cagney, and its publication is a notable event. But everywhere, whether in general scientific journals or journals devoted to our special department, the same activity is to be noted.—We may here refer in passing to a work of unique character, in the form of a directory, which has been undertaken by Mr. Lake, and which will shortly be published, and will contain the names of those interested in our department.

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary Meeting, November 4, 1898.

HENRY T. BUTLIN, Esq., F.R.C.S., *President, in the chair.*

Lupus of the Larynx (with Microscopical Sections and Drawings from a Case). Shown for PROFESSOR FERDINAND MASSEI, Naples (Honorary Fellow of the Society).

A girl, aged ten, was seen last year by Professor Massei suffering from typical lupus of the larynx. A year previous the case had

been sent to him as one of syphilis, the cutaneous manifestations having been diagnosed as such by a competent dermatologist. In spite of energetic antisyphilitic treatment, matters underwent no amelioration, and whatever change took place was for the worse. Professor Massei then decided that the affection of the larynx was lupus, and the cutaneous appearances confirmed this diagnosis. The lungs were normal. Sections of tissue removed from the epiglottis showed giant-cells, around which were disposed epithelioid cells in the manner characteristic of tubercle. Inoculations of guinea-pigs were, however, unfruitful, but recently the patient presented symptoms of pulmonary phthisis. He proposes to do away with the distinction between tuberculosis and lupus, holding that they are identical, as shown in this case by the microscopical appearances and the recent development of consumption. The negative result of inoculation is not, in his opinion, a disproof, because it goes along with the extreme scantiness of the bacilli in lupus tissue, which is so well recognised. (Professor Massei has presented to the Society the sections from this case, and they may be seen on application to the librarian.)

Mr. WYATT WINGRAVE thought that the non-differentially stained specimen presented by Professor Massei was hardly sufficient evidence of the pathological identity of lupus and tubercle, and since there was much difference of opinion as to their respective histological details, a demonstration of bacilli would have proved of great interest and importance.

Sir FELIX SEMON said that he thought it was generally agreed that lupus and tubercle were essentially the same, but that the former was characterized by its chronic course and the paucity of tubercle bacilli, whereas comparatively opposite conditions held in tubercle.

Man, aged Fifty-one, with Hypertrophic Laryngitis of Doubtful Nature. Shown by Dr. ST. CLAIR THOMSON.

The patient, J. H., aged fifty-one, had been hoarse for eight months. There was no specific history; the lung sounds were normal; and the patient confessed to having taken very freely of alcohol. He has been under iodide of potassium for over a month without any improvement. There is an irregular growth on the right processus vocalis; the right cord is decidedly impaired in its movement. There is thickening of the opposite (left) processus vocalis and general hypertrophic laryngitis. No glands are to be felt. The patient has not lost flesh. There is a good deal of chronic rhinitis.

Sir FELIX SEMON was not certain that the case was simply hypertrophic laryngitis: there was some defective mobility of the right vocal cord, and a small excrescence on the vocal process.

This suggestion of malignancy was also endorsed by Dr. BOND, who thought that the absence of any intervals of improvement (which were frequent in simple chronic laryngitis) rather favoured the idea of grave disease.

Mr. LAKE had seen the patient some time before, and on account of the rapid loss of weight and suspicious appearance, had suggested exploratory laryngo-fissure.

Dr. ST. CLAIR THOMSON proposed to remove a portion of the growth from the right processus vocalis, and report to the Society as to its microscopical characters.

Epithelioma of Larynx. Shown by Dr. BARCLAY BARON (Bristol).

Patient male, aged sixty-four. About twelve months ago he found him suffering from extensive growth affecting the front parts of both vocal cords, especially the right and the anterior commissure. This was removed at several sittings by means of forceps and curette. The growths were multiple, not ulcerated, and there was no redness or swelling of surrounding structures, and the case was regarded as probably a non-malignant one. Some months ago he again came to the hospital, and the whole larynx was filled with warty growth, with redness and swelling of the right ventricular band. This was removed by a surgical colleague after thyrotomy, and proved to be epithelioma, and it has extensively recurred since the operation last June. Dr. Baron queried if this is not a case of transference of a benign into a malignant growth.

Sir FELIX SEMON rather questioned whether the papillomatous nature of the growth in the first instance was not more apparent than real. The warty appearance might be merely superficial, the separate papillomata growing from a common base. The man's age, again, was not in favour of a benign growth. Under all circumstances, he thought the supposed transformation could not be classified otherwise than "extremely doubtful." He himself had hardly any doubt that the disease was malignant from the first.

Sarcoma of Nose.

Dr. BARON also showed a case of growth in the right nostril of a woman aged thirty-four. Three months ago she found some epiphora; an attempt was made to pass a probe through the lachrymal duct by her medical adviser, but he was unable to reach the nose. Since then there has been much pain over the eyebrow and roof of nose, some discharge from the nostril, and a gradual

obstruction of it. She was seen in consultation, and the whole nostril found to be filled with a grayish growth which projected into the naso-pharynx. It bled freely on probing, and removal of a piece with a snare caused very free hæmorrhage. She also said that she had bled freely three times in a fortnight. There was a soft elastic swelling at the inner angle of the eye. Microscopically the growth appeared to be a mass of round cells, and the clinical history and appearance were believed to point to sarcoma.

Mr. SPENCER did not think that there were definite evidences of sarcoma present. The mass of granulations bathed in muco-pus might have an inflammatory origin, *e.g.*, be gummatous, or have arisen in one of the sinuses. He advised that the nose should be first of all cleared out by curetting under an anæsthetic with the head hanging low, and then be plugged. In a day or two, on the removal of the plug, it would be possible to examine the interior of the nose and naso-pharynx completely. The subsequent course of the case would then enable a diagnosis to be made.

The PRESIDENT agreed entirely with Mr. Spencer as to the course of treatment he had suggested, and thought the mass had more the appearance of a benign than a malignant growth. He thought it would be very difficult to differentiate microscopically between a chronic inflammatory mass of this kind and a small round-celled sarcoma.

Mr. WAGGETT thought the microscopic specimen could not be distinguished from a mass of granulation tissue.

Dr. HILL had a similar case under his care eight years ago; as the pathological report declared a portion removed for microscopy to be undoubtedly malignant, he handed the case over to Mr. Page, who cleared the nose out by Rouge's operation. Slight recurrence took place from time to time, but the patient was still living and well, and the speaker had long ago been compelled to recognise that the case was really one of granulomatous growth associated with suppuration from the sinuses.

Mr. ROBINSON thought that there was a possibility of the lesion being tuberculous, the nose becoming infected subsequent to the injury. The crusted, dry appearance, and its localization to one cavity, did not seem to favour the view of its sarcomatous nature.

The PRESIDENT thought that the smoothness of the swelling outside and the ulceration inside seemed to point more to an infective disease than to a new growth.

Nasal Case for Diagnosis.

Dr. BARON also showed a young man who had a blow on the nose six months ago. Three weeks afterwards he noticed a swelling

on the outside of the nose, and this has increased steadily. It is red and hard, and presents no fluctuation. There was no discharge until about three weeks ago, when some pus came from the nostril, and Mr. Morton, under whose care the case was admitted at the Bristol General Hospital, took away a piece of necrosed cartilage. There is no history of syphilis, but he has taken antisyphilitic doses of iodide of potash for a month or so with no effect. There is some history of tubercle in the family, but the man is quite healthy excepting for the nose trouble.

The case was shown to get the opinion of the members as to the nature of the swelling, Dr. Baron believing it to be inflammatory, with necrosis and sequestrum of cartilage as the cause of it.

Cancer of Oesophagus, with Paralysis of One Vocal Cord. Shown by Dr. WATSON WILLIAMS.

W. D., male, aged sixty-four, complained July 1, 1898, of difficulty in swallowing, but early in the previous January he had noticed some difficulty in swallowing a piece of meat, which had increased gradually until he could only swallow soft food. He lost flesh considerably—nearly three stone in weight. In August, 1897, his voice had become slightly thickened and hoarse, and remained so since.

Laryngoscopic examination showed the right vocal cord in the cadaveric position, and pointed to a right recurrent nerve paralysis. There was no obvious cause for this, neither were physical signs in the chest indicative of organic lesions found. A No. 20 œsophageal bougie was easily passed into the stomach. No history of syphilis. Rest in bed and small doses of iodide of potash were followed by rapid improvement in swallowing powers and in his general health.

In five weeks' time marked inspiratory dyspnœa developed, increasing so rapidly that a low tracheotomy was performed with relief. He now expectorated quantities of mucus, and, rapidly sinking, died four days after the operation.

Post-mortem examination disclosed a circular perforation in the trachea two inches above the bifurcation, three-quarters of an inch in diameter, and communicating with the gullet. The right posticus muscle was atrophied. The anterior gullet wall was invaded by an epitheliomatous growth, which involved also a post-tracheal gland. The right recurrent laryngeal nerve was involved in the growth and compressed. Old caseating tubercular deposits were found in both pulmonary apices, and the bases were affected with septic pneumonia.

Dr. WILLIAMS pointed out that the value of recurrent paralysis as a symptom of malignant disease of the gullet depends much on

the presence or absence of signs of organic disease in the chest cavity which might also produce a similar paralysis. The early improvement under treatment in this case certainly might have at first suggested a thoracic aneurysm. It is worthy of note that the right cord was probably paralyzed five months before he suffered from dysphagia.

Sir FELIX SEMON thought that in all cases where a patient died with paralysis of a vocal cord the laryngeal muscles should be carefully examined for varying degrees of degenerative changes, so that we might gain further and more exact information as to the question whether in organic progressive disease of the recurrent laryngeal nerve the abductor muscle was the first to succumb. Friedrich's descriptions of such cases had been most valuable.

A Case of Paroxysmal Sneezing associated with Great Hypertrophy of Tissues in neighbourhood of the Septal Tubercle (shown at June meeting). Shown by Mr. ARTHUR CHEATLE.

A man complained of nasal obstruction and violent attacks of sneezing. On the right side a pink soft mass, springing from the septum opposite the middle turbinal, extending downwards and forwards, having a broad base with slightly overhanging lower edge, quite obscured the middle meatus and reached down to the inferior turbinal. The same condition existed on the left side, but to a much less degree, the mass being pale.

With a cold snare a large portion of the mass on the right side was removed. Sections showed great hypertrophy of the normal tissue, numerous glands giving an almost adenomatous appearance with large blood-spaces and great increase of connective-tissue.

Dr. PEGLER thought one would be scarcely justified in designating this case an adenoma of the septum, because, although the microscopic sections displayed an abundance of racemose glands, this was a common condition in mucous membrane hypoplasia of the septum and turbinals.

Growth in Anterior Commissure, with Paresis of Right Cord (patient shown at March meeting). Shown by Dr. PEGLER.

The small commissural fibroma of left cord was removed with forceps six months ago—i.e., immediately after patient was shown to the Society.

All trace of the growth has now disappeared, but the abductor paresis of the opposite (right) cord remains unchanged.

The voice is much improved.

Case of Large Angioma of Larynx. Shown by Dr. BOND.

Patient male, aged fifty-five. When a boy, he used to shout tremendously. He has had hoarseness for about twenty-eight years: some twenty years ago he was under Sir M. Mackenzie, who found and treated the tumour in larynx. Since then the patient has occasionally attended at Golden Square. An account of the case was published by Dr. Wolfenden in 1888 in the *Journal of Laryngology*. At various intervals patient has spat up blood, and when seen by me in March last was coughing up blood and phlegm freely.

He has a dark-bluish tumour on right ventricular band, covering quite two-thirds of it; there is a separate little offshoot above, and a third one on left ventricular band in front. The cords are apparently free.

Patient says that he used to be treated weekly with the galvanocautery. It is a question, considering the severe hæmorrhage last March, whether one should not do a more radical operation, and the opinion of the Society on this point was desired.

Mr. SPENCER supported the proposal of Dr. Bond to perform thyrotomy, and freely excise the disease. He noted that the cord on the right side moved very little, and there was a small glandular enlargement in front of the carotid on that side. It was possible that the growth was tending to show malignant characters.

The PRESIDENT concurred with the suggestion of surgical interference.

Epithelioma of Larynx. Shown by Mr. STEWARD for Mr. SYMONDS.

D. H——, aged fifty-five, attended at Guy's Hospital on August 5, 1898, for partial loss of voice and pain in the throat and below the right ear. The loss of voice began in December, 1897, after an attack of influenza, and since that time has been gradually increasing. Examination showed an irregular thickening of the right vocal cord, which, however, was distinctly movable. Iodide of potassium was prescribed. A fortnight later the right cord was found to be fixed, and some irregularity of the false cord was noticed.

On September 23 the growth was distinctly larger, and some blood had been coughed up. A small piece of growth was removed, and reported, after examination by the pathologist, to be inflammatory. After this some improvement in symptoms took place, for on October 23 the patient reported that he was free from pain, and that he could speak with less effort. There was, however, no change in the laryngoscopic appearances.

Drs. SPICER and GRANT thought the case was malignant.

Sir FELIX SEMON could not, however, satisfy himself that the ulceration described by the first speaker was at all obvious.

Large Lipoma of Soft Palate. Shown by Dr. BOND.

Patient is a female, aged forty-nine. She has a large semi-fluctuating tumour in soft palate on right side, extending on left beyond mid-line, and on the right behind angle of jaw. Eight years ago he removed a large, many-lobed fatty tumour through external incision in parotid region. The mass removed weighed several ounces. The operation was followed by right facial paralysis, from which patient has almost recovered.

The original tumour was a parotid one: the present one has probably developed from some fragment left.

Six years ago her right breast was removed in one of the London hospitals.

The PRESIDENT thought that it would be possible to remove the tumour of the palate, which might easily shell out through a fair incision.

Tubercular Laryngitis after Removal of Large Interarytænoid Mass. Shown by Mr. LAKE.

The patient, a girl of twenty-one, had been under treatment for eight months. When first seen, she had bilateral ulceration of the vocal cords, great bilateral swelling of the arytaenoid cartilages, and a very large interarytænoid mass. The arytaenoids were treated by double curettage in April, and had not been enlarged since, and the cords were quite healed. The mass removed from the interarytænoid fold was shown, as also were Mr. Lake's forceps for the removal of such growths.

Dr. HERBERT TILLEY thought that Mr. Lake was not only to be congratulated on the excellent result attained in this case, but also for bringing the instruments to such perfection, and making it a comparatively easy task to deal with such cases of tubercular laryngitis. He has seen great relief afforded patients by removal of these œdematous masses, and had no doubt that they would see many more in the immediate future.

A Case of Membranous Laryngitis. Shown by Mr. LAKE.

The patient, a man aged twenty-five, was the subject of a laryngitis of combined tubercular and syphilitic origin. He had loss of voice of eight weeks' duration. On October 17 a white membrane was noticed on the posterior surface of the epiglottis, which had recurred after removal.

In reply to Dr. Thomson, Mr. LAKE said that no bacteriological examination had yet been made, but a further report was promised.

Paresis of the Right Facial Nerve and of the Right Side of the Palate following Tympanic Suppuration.

Dr. WILLIAM HILL showed a female aged twenty-four exhibiting this unusual condition. Right tympanic suppuration followed measles eight years ago: a polypus was removed about four years later, and after this operation the right side of the face was said to be "drawn up"; two years ago, however, this side "got weak," and the face was drawn up on the opposite side. For a year she has experienced some difficulty in swallowing, especially solids, though fluids have occasionally passed into the naso-pharynx: she has continuously "felt a lump" in her throat.

There is now, in addition to facial paresis, marked asymmetry of the palate, the arch being much higher on the left side; the right is flaccid, and the uvula is adherent to this side. The reflex, which is very active on the left side, appears to be absent on the right. There is reaction of degeneration in the right facial nerve, but for want of a suitable electrode this test has not yet been applied to the palate.

The view that the palate was partly supplied by the facial through the vidian and large superficial petrosal nerves has been taught by anatomists since the time of Sir Charles Bell down to the present decade; but neurologists have for several years, on clinical and experimental grounds, combated this teaching, pointing out that the true motor supply of the palate is from the medullary fibres of the spinal accessory. The case was therefore of great neurological interest, few reliable cases having been recorded, and it was desirable to ascertain the views of the members as to whether the asymmetry of the palate was actually due to motor paresis (and not to an acquired or congenital deformity): and if so, the further question had to be faced, whether the paresis of the facial muscles and of the palate were due to a common lesion within the temporal bone rather than representing an accidental association.

Dr. DUNDAS GRANT was of the opinion that the median position of the dimple in the palate during phonation was a strong argument against the diagnosis of hemiplegia of the larynx. He considered the appearance, apart from the phonation, as inconclusive, and was inclined to think that the asymmetry then present was due to inflammatory changes in the pillars of the fauces, and not to nerve lesion.

Frontal Sinusitis.

Dr. HILL also showed a male aged forty, on whom he had recently operated for chronic suppuration of the frontal sinus by the Ogston-

Luc method. The chief points of practical interest in the case were : (1) the shortness of the skin incision along the brow ; (2) the perfect æsthetic effect, as the scar was barely visible, and the previous displacement outwards of the eye had disappeared ; (3) no drainage-tube was employed.

Dr. HERBERT TILLEY, in reply to a question as to what instrument was used to make a free passage into the nose, said that he had found a Krause's antrum trocar fulfil the object very well, the slight curve on the instrument being just that which was necessary.

Case of (?) Esophageal Pouch. Shown by Mr. CRESSWELL BABER.

F. G——, a butler, aged sixty-two. First seen at the Brighton Throat and Ear Hospital on October 24, 1898. For over a year he had had a peculiar sensation in his throat, as if his uvula were too long, and he brought up a quantity of phlegm. Seven or eight months ago he first noticed that he returned lumps of undigested meat which had been taken the day before. This usually happens in the morning after breakfast, when they return, together with fragments of that meal. There is no marked difficulty in swallowing, but occasionally he has to make two efforts before the act can be accomplished. Solids are more troublesome to swallow than liquids. He feels satisfied after a meal, and is conscious that he swallows most of the meal without any difficulty. No vomiting or pain. He has a "croaking" or gurgling noise in his throat, especially when lying down and at meals, which is followed by the bringing up of quantities of phlegm. He often has to leave the table because of the discomfort.

On examination the pharynx is irritable and congested, and uvula thick. Larynx congested, especially the cords : otherwise it is normal. Much white, frothy secretion is seen coming up behind the arytenoids. External examination shows a doubtful fulness in the left posterior inferior triangle of the neck, but I have not examined him after a full meal. Pressure with the fingers above the clavicles, especially at the left side, produces a gurgling noise, and escape of gas by the mouth ; and after he has swallowed some milk and bread, pressure in this region causes it immediately to return. Liquid taken alone is partly returned when he stoops sharply forward. Patient is well nourished, and has not lost flesh to any extent. His weight, which on July 26, 1898, was 12 st. 9½ lbs., and on August 30 12 st. 13 lbs., is now (October 31) 12 st. 11 lbs. I have passed two large-sized elastic bougies down, and they both became arrested about nine inches past the teeth.

The ends could not be distinctly felt in the left posterior inferior triangle. Chest normal, except a narrow patch, with slightly impaired resonance under the left clavicle.

Dr. ST. CLAIR THOMSON suggested that the case afforded a useful field for the employment of the Röntgen rays. He had not himself had such a case, but it had occurred to him that if two metallic bougies were passed down the œsophagus, one into the pouch and the other into the stomach, and if an X-ray photograph were then taken of the neck and chest, we might get very useful information as to the situation and relationship of this pouch.

The PRESIDENT said that before operating to remove the pouch the patient should be carefully examined, in order to insure he was in a fit state of health, and that it should be clearly ascertained that there was no organic stricture of the œsophagus, a probe passing easily into the stomach as well as into the pouch.

An Exceptional Case of Cleft Palate. Shown by Mr. MORLEY AGAR.

The bony cleft was on the left side, and only showed the inferior turbinate in its whole length. There was also some deformity of the vomer.

Mr. ROBINSON was of opinion that this deformity was not very unusual. He explained it as a complete cleft from front to back, but to the left side of the mid-line, so that there was non-union on the left side of the maxilla to the pre-maxilla, and of the palatal processes of maxilla and palate to their fellows on the right side. The appearance posteriorly was due to the dragging well to the right of the soft palate and the sloping edge of the bones, and the right posterior choana thus coming into view.

Notes of a Case of Ulceration of the Soft Palate. Shown by Mr. PARKER.

A. G——, male, aged 32. Last Easter his throat became very sore—was said to be ulcerated. After ten weeks' treatment it got quite well, and remained so till a few days ago. He has always been a strong, healthy man, and denies all history of syphilis. He had gonorrhœa thirteen years ago. He is married, and has three healthy children, but he states that his wife has had two or three miscarriages.

On examination, the soft palate and uvula are found to be covered with a ragged, straggling ulceration of a superficial character; between the patches of ulceration there is a peculiar

nodular appearance, and there is a small areola of redness round the diseased parts.

The diagnosis lies between tertiary syphilis and tuberculosis. The former seems to be more probable.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

Friday, October 28. 1898.

J. MIDDLEMASS HUNT, M.B., C.M. (Liverpool), *President, in the chair.*

LARYNGOLOGY AND RHINOLOGY.

Exhibition of Cases.

THE PRESIDENT. *Epithelioma of Larynx with Microscopical Specimen.*

The patient, a man aged forty-four, had suffered from increasing hoarseness for six months, and was now quite aphonic. He had no other symptom. On laryngoscopic examination the anterior commissure was seen to be occupied by a pedunculated growth, white in colour, but with pinkish-red points showing through the white. The surface of the growth was smooth, and not papillated. Both vocal cords were congested, but especially the left. The growth interfered with the approximation of the cords, and the movements of the left cord were decidedly less free than those of the right. The diagnosis of malignancy was based on the following grounds:

- (1) The ulceration of the surface of the growth.
- (2) The comparative fixation of the growth. Though 'pedunculated, it scarcely moved on attempted phonation.
- (3) The impaired movement of the left cord, from the anterior end of which the growth appeared to arise.

Dr. Hunt had removed a portion of the growth by means of Schroetter's forceps. Microscopic examination showed it to be an epithelioma. He proposed to treat the case by thyrotomy, with removal of the growth and surrounding soft parts.

Mr. LENNOX BROWNE expressed agreement with the method of treatment proposed by the President. In cases in which the disease was limited to the larynx, and the glands were not already involved, laryngo-fissure and clearance of the diseased tissues had been attended in his practice with the best result. One patient was living, and in active work as the foreman of a large iron-

foundry, five years after operation, and others two and a half to three years following operation. In none had there been recurrence.

Mr. MAYO COLLIER advocated removal of half the larynx.

Mr. BARK (Liverpool) could not entirely agree with Mr. Mayo Collier's suggestion, "that in all cases of epithelioma of the larynx the operation should be hemi-laryngectomy." Where the growth was limited to a portion of the vocal cord, and of the slow-growing variety, such as one met on the lower lip, he believed it could be thoroughly removed without interfering with the cartilage, and, moreover, after splitting the cartilage, if the growth was found to be more extensive than shown by the laryngoscope, then half, or even the whole, of the larynx might have to be removed, either of which must be a more serious procedure than simple thyrotomy. Mr. Bark mentioned a case which he had reported to the Society about two years ago, similar to that shown by the President, where he had removed the growth (epithelioma) after laryngo-fissure; there was no recurrence up to the present time, and the health and voice were good.

Mr. LENNOX BROWNE was surprised to hear from Mr. Mayo Collier that Mr. Butlin had changed his views with regard to the treatment of intrinsic epithelioma of the larynx such as the case before him, for that surgeon had been the apostle of removal of soft parts only in these cases: in his (the speaker's) experience the practice had proved a most beneficial one in the considerable number of cases in which he had adopted it. In none had there been a fatal issue; in one case there was a record of good health without recurrence for four and a half years, and in two others of two and a half years. In well-selected cases he considered the operation to be ideal.

Dr. DUNDAS GRANT advocated exploratory thyrotomy. If more than this were required, entire removal would be necessary, as the growth affected both sides of the larynx.

Dr. DUNDAS GRANT. *Bleeding Tumour of Nasal Septum.*

Dr. FURNISS POTTER. (1) *Black Tongue.* The patient was a man aged forty-eight. A dark patch was seen on the dorsum, immediately anterior to the circumvallate papillæ, which consisted of epithelial and food debris, apparently pigmented and adherent to hypertrophied papillæ, which latter terminated in hair-like processes about a quarter of an inch long.

(2) *Loss of Abductor Movement in Left Vocal Cord.* The patient, a milkman, a healthy-looking man, aged thirty-three years, had been under treatment during the last two years for chronic pharyngitis

and nasal polypi. No history of syphilis or (with the exception of influenza four years ago) any previous illness. About fifteen months ago the left cord was noted to move indifferently; there had been no symptoms referable to the larynx. On examination the left cord was seen to be motionless, and practically fixed slightly to the left of the middle line, the right cord overlapping the middle line to meet the left on phonation. The chest had been examined, but no sign indicating intrathoracic pressure had been discovered. Knee jerks and pupil reflexes were normal—in fact, there was complete absence of any sign or symptom to indicate the cause of loss of motor power.

Dr. WHISTLER suggested that pressure on the recurrent might be caused by enlargement of one of the chain of laryngo-tracheal glands, which, being so deeply situated, would be most difficult, if not impossible, to detect by palpation. He recalled a case of his own where this diagnosis had been verified by post-mortem examination.

Mr. MAYO COLLIER cited a case in which paralysis of a vocal cord was caused by an empyema situated over the apex of the lung, and in which motor power returned after surgical treatment of the empyema.

Dr. MILLIGAN (Manchester) said that in the case shown by Dr. Furniss Potter it was exceedingly difficult, if not impossible, without making a more complete examination, to say what was the most probable cause of the paralysis of the left vocal cord. The appearance as presented in the larynx gave no clue as to what was the actual underlying pathological condition. A thorough examination of the chest, of the digestive tract, and of the various reflexes, would have to be made before anything definite could be said about the case. He agreed with Dr. Whistler in thinking that a certain number of cases of paralysis of the left vocal cord were due to the presence of enlarged glands within the thorax, enlargements which could not be detected during life, but which were frequently seen upon the post-mortem table.

Dr. DUNDAS GRANT referred to the more recently discovered causes, such as syringomyelia and alcoholic neuritis, but thought there would always remain a certain percentage of cases in which the cause was undiscoverable.

Mr. MAYO COLLIER. (1) *Distortion of Upper Jaw, Teeth, and Palate from Nasal Obstruction.*

A young man, eighteen years of age, a typical example of the effect of chronic nasal obstruction on the growing skull. He had

suffered from his throat and nose as long as he could remember. He was deaf, and had been so for many years. There had been no discharge, but tinnitus of various degrees and kinds was a chronic source of annoyance. The face was the typical flat from side to side hatchet shape. The nose thin and prominent, and the mouth more or less always open. The lower jaw was prognathous, and the incisor teeth of the upper jaw were prominent, and considerably in front of the same teeth of the lower jaw. On examining the mouth, the hard palate was seen to be much elevated, almost V-shaped, whilst the soft palate was hooded and approximated to the posterior pharyngeal wall. The teeth of the upper jaw were crowded and irregular. The alveolar arch was so squeezed that the molars were laterally much approximated, whilst the incisors were advanced in front of the incisors of the lower jaw.

The lower jaw was normal, well developed, and the teeth well-formed and regular. The nose was thin, prominent, and motionless, the alæ not expanding during inspiration. The septum, including both the bony and cartilaginous portions, was much thickened—to the extent in front to half an inch. The nasal processes of the superior maxillary bones were parallel instead of inclining to one another at an angle; the whole nose being consequently protruded forwards.

On examining the nasal cavities, it would be seen that the turbinal bones were nearly in contact with the septum. The nasal cavity was much encroached upon in all directions; the nasal mucous lining was much thickened and engorged, and nasal respiration had to a large extent ceased. The deformity had commenced about the eighth year, and the mother described the child when born as a well-formed, lovely baby. Subsequently his milk-teeth were quite regular and well formed and his face was round and regular.

The mechanism of the deformity is quite apparent and simple. Chronic catarrh is the starting-point. Subsequent swelling and congestion of the nasal mucous lining obstructs nasal respiration, and induces mouth-breathing during part of the day, but entirely at night. Mouth-breathing means abstraction of air and negative pressure on nasal and post-nasal spaces. Negative pressure in nasal and post-nasal space means pressure from without on all sides of the nasal box. Hence the elevated hard and soft palates, the approximated walls of the upper jaw carrying with them the turbinal bones so as almost to touch the septum. Hence the adjustment of the nasal processes of the superior maxillary bones and the protrusion forward of the nose. Added to this, the

unsupported intravascular pressure causes engorgement of the whole lining membrane of the nasal cavity and its summit, leading to chronic thickening of the cartilaginous and bony septum, and further encroachment on the nasal cavities. Deafness, with or without tinnitus, was nearly always a marked feature of this deformity. The deafness results from the swollen and catarrhal state of the Eustachian tube, and is only to be cured by permanently ventilating the nose.

Dr. MILLIGAN said that he would like to ask Mr. Collier whether he had noticed how very frequently in cases of nasal obstruction the state of the teeth was extremely bad, and if he could give any reason for this being so.

Mr. COLLIER, in reply to the President's and Mr. Lennox Browne's remarks suggesting that some of these cases were congenital, said that neither the President nor Mr. Lennox Browne had a right to assume or even to use the word "congenital" in this case. The case was not one of congenital deformity of the upper jaw. It was clearly and distinctly stated that the child had been born with a perfectly formed face, upper jaw, and palate. Even if it were not so, to offer and use the terms "congenital" and "hereditary" as a scientific explanation of a certain physical condition was nothing more nor less than substituting a name for an explanation. The *onus probandi* rests with the person who uses the term "congenital" to explain the process that takes place in the uterus. There is no arrest of development, as in hare-lip and cleft palate. The parts are there, but distorted. In this case the theory of congenital causes is quite inadmissible in view of the clear and concise history.

(2) *Chronic Deafness, due to Nasal Obstruction.*

This lad, the subject of the previous demonstration (case No. 1), has been deaf ever since he can remember—deaf to the extent of not hearing conversation except when spoken to very loudly. There has never been a discharge from either ear, but tinnitus as a constant source of annoyance. The deafness, as related, was due to chronic Eustachian obstruction from chronic nasal obstruction. The nasal obstruction has been much lessened by an antiseptic wash. The galvano-cautery has been used on the right side only, and already the patient hears 24 inches with the left ear and 12 inches with the right ear. The ventilation of the nose has equilibrated the tension in the post-nasal space, and consequently lessened the congestion and swelling of the Eustachian tube.

(3) *Case of Tumour of Nose.*

Mr. BARK said that taking into consideration the history and clinical features of this growth, he was inclined to look upon it as a sebaceous cyst. However, an exploring needle would definitely settle the diagnosis.

(4) Mr. MAYO COLLIER also described a case of *disease of epiglottis* in a lad of about twelve years of age, who had suffered with "something in his throat" for the last eight months. He had intended to show the case at the meeting, and much regretted that the patient had failed to present himself. The boy had a fairly good history, but was pale, thin, under-fed, and phthisical-looking. The nose was apparently free from trouble. The naso-pharynx and oro-pharynx were slightly catarrhal. The epiglottis was much thickened in its upper half and in its anterior and posterior aspects. The thickening partook of the normal colour of the parts, was slightly granular, and in the midline and on the pharyngeal aspect there was a fissure indicating some commencing ulceration. The rest of the larynx was in a generally catarrhal condition. The lungs had been carefully examined, and nothing abnormal was found here or in the other thoracic or abdominal viscera.

Treatment, which consisted of the application of chloride of zinc twice weekly, with general hygiene instruction and cod-liver-oil, had had little or no effect. The question was, What was the nature of this thickening? Three causes occurred to one—plastic or hypertrophic laryngitis, syphilis or tubercle.

Plastic laryngitis never, so far as one's knowledge or experience served one, affected an isolated portion of the larynx, like the epiglottis. Syphilis was most unlikely. The hereditary forms did not attack the larynx, and the acquired in this case was not to be thought of. Moreover, the local appearances of syphilis were clear, definite and unmistakable. The absence of congestion or ulceration, or loss of cartilage, told heavily in favour of some other cause. Mr. Collier was of opinion that the steady progress of the disease, the colour, the granular appearances, the general condition of the patient and his surroundings, all pointed to tubercular infiltration. He thought the rest of the larynx and lungs would probably not escape.

Dr. MILLIGAN read the notes of a *Case of Suppurative Catarrh of the Right Maxillary Antrum and Right Frontal Sinus.*

J. G., male, aged twenty-four, had a somewhat acute attack of la grippe two years ago. The attack was accompanied by pain over the area of the right maxillary antrum, and was followed by a discharge

from the right nasal passage, at first comparatively clear and odourless, but subsequently purulent and fœtid. When first seen by me twelve months after the onset of the disease, the condition found was as follows: The right middle turbinated body appeared somewhat enlarged, and the mucous membrane covering its anterior extremity was in a state of polypoid degeneration. A thick purulent discharge could be seen oozing from the region of the middle meatus, increased on inclining the head forwards. Upon transillumination the right antral area contrasted strongly with the left, being perfectly dark and opaque. The second right molar tooth was carious. No other accessory sinus *appeared*—and I use the word advisedly—to be affected. Operation was advised, and was ultimately performed through the alveolar margin, the stump of the second molar tooth being first drawn. Thick fœtid pus at once flowed from the antral cavity. The mucous membrane, which was œdematous and granular, was freely curetted and a drainage-tube inserted. The patient made good progress towards recovery, the discharge gradually becoming less and less.

About two months after the operation, however, he began to complain of pain in the head, more especially over the right frontal sinus. The pain was of a neuralgic type, was intermittent, and was increased by stooping or by any over-exertion.

Examination at this time made it probable that the right frontal sinus was the site of suppurative inflammation. Not wishing, however, to open the sinus unnecessarily, the course of events was watched.

The discharge, which apparently came from the anterior end of the middle meatus, remained fairly copious, and the pain persisted. Several attempts were made to irrigate the sinus by means of a Lichtwitz's cannula, but with no very great success. Ultimately, I opened the sinus from the outside by means of a median incision, and found the sinus fairly full of pus. The infundibular passage was enlarged, and a conical drainage-tube drawn down to the floor of the sinus. The periosteum divided in the original incision was now brought together by means of catgut sutures, and the edges of the wound closely united by six horsehair stitches. For the first thirty-six hours the patient's progress was all that could be desired. Shortly afterwards, however, the temperature began to run up, and the tissues about the incision to become puffy and œdematous. At the same time pain was complained of, especially when pressure was made upon the floor of the sinus. Gradually an erysipelatoid blush came over the parts, and the condition present might, I think, be fairly regarded as an abortive attempt at erysipelas. Three stitches were

accordingly removed, the drainage-tube pulled up to the surface of the wound, and irrigation with warm boracic solution made, while boracic fomentations were applied over the wound. In the course of a few days, the parts having returned to a practically normal condition, the tube was again drawn down to the floor of the sinus and the wound re-sutured. Progress was now uninterrupted, and after five weeks' treatment, as no discharge was apparently coming from the sinus, the tube was removed. The patient thereafter made an uninterrupted recovery, although, as a matter of precaution, I have not so far removed the antral drain.

The case presents several points of interest. In the first place, Was the frontal sinus affected from the very commencement, or did it become subsequently infected as the result of the presence of the antral suppuration? A careful examination was made at the outset, and frontal sinus suppuration looked for; but, at any rate, if present, was not diagnosed. I am inclined to think, however, that it developed subsequently, and was due to infection from the antrum (possibly matter having been driven up into the sinus during the manipulations necessary for cleansing the antrum) for the following reasons:

(1) The sudden appearance of a fresh line of pus towards the anterior part of the middle meatus.

(2) The onset of so-called neuralgic pains around the sinus.

(3) The rapidity with which healing took place, this, to my mind, being an indication that the disease was not of long standing.

I have elsewhere recorded a case where secondary involvement of the sinus undoubtedly developed while the patient was syringing his antrum through an alveolar opening, and it is also, I think, well recognised how intimate the relation between the ostium maxillare and the orifice of the infundibular passage is, and how a well-marked gutter of mucous membrane sometimes connects the two.

Another interesting point in the case was the presence of a mild attack of erysipelas. I may say that the operation was conducted with strict antiseptic precautions, and free use made of both carbolic and perchloride lotion. As I have seen this same phenomenon in three other cases of frontal sinus disease, I am inclined to regard it as due to a streptococcic infection of the planes of connective tissue which are divided in the first incision, a streptococcal cellulitis being produced, with subsequent extension to the skin. I base this idea upon (1) the frequency with which streptococci are found in the pus drawn from the frontal sinus, and (2) the great difficulty there is in preventing pus trickling into the lips of the incision, especially if

the sinus happen to be fairly well full. In most cases this infection does not occur, but when it does, probably the cocci are of more than usual virulence. It has struck me that it would be advisable to treat the incision in the same way as one is accustomed to treat the incision in Stacke's operation upon the middle ear—viz., by putting in the sutures, but, as Gruber has suggested, not tying them for a few days. By doing so tension would be avoided, while the lips of the wound might be kept well dressed with an antiseptic dressing. It may be urged, however, that the scar thus produced would not be so neat as if primary suture had been adopted. Upon this I should much like to hear the opinion of the Fellows. Another point upon which I should like to hear an opinion expressed is the value or otherwise of transillumination in the diagnosis of frontal sinus suppuration. Those of you who were present at the Edinburgh meeting of the Association will remember a remarkable series of skulls, exhibited by Dr. Logan Turner, where the limits of the sinus had been mapped out, these limits having been ascertained, firstly, by transillumination, and, secondly, by opening up the part. Dr. Turner's paper in the *Edinburgh Medical Journal* of April and May, 1898, contains some important deductions from these same observations. In the living subject my experience has been such as to render me somewhat sceptical as to its value as a definite means of diagnosing frontal sinus suppuration. My feeling is that at present the only absolutely sure method of diagnosing the presence of latent empyema of the sinus is by opening it and inspecting its interior.

Dr. W. HILL said that in his practice he had ceased to use drainage-tubes in these cases, and considered they were quite unnecessary, provided the fronto-nasal canal was sufficiently enlarged.

In reply to questions by Mr. Lennox Browne, Dr. MILLIGAN said that he quite agreed that a most exhaustive examination should be made in all cases of suppuration from the nasal accessory sinuses. In the case he had just recorded he believed, however, that the implication of the frontal sinuses was a secondary result, and was due to infection from the maxillary antrum. He would like to refer again to the proximity of the infundibular opening to the ostium maxillare, and to the occasional presence of a fold of mucous membrane between the two orifices, thus practically converting the whole into a tube. He was glad to hear that Mr. Collier shared his view about the advisability of not entirely suturing the incision at the time of operation.

The following specimens, etc., were shown :

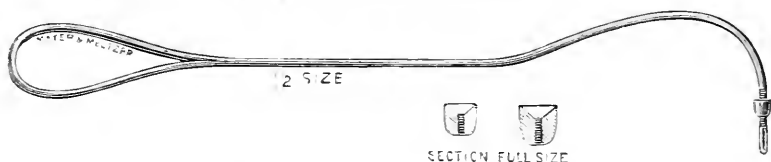
MR. LENNOX BROWNE. (1) *Specimen of New Growth from Uvula.*

The little patient from whom this growth was taken was a Jewish female of three years of age, and was first seen by me on October 14. The uvula was so pendulous that the end could not be seen by ordinary oral examination, nor even on depression of the tongue; but the child could project it out of the mouth between the lips, and a round, pale, and smooth growth, the size of a large pea, was then revealed. Papillomata of the uvula are common enough, and mucocoeles in the tissue are also not infrequent. The growth in this case may be either a mucocoele or a pearl, but it has not been opened so that it might be seen, with a view of showing it intact. It has shrunk considerably in the preservative solution, and the small drawing better illustrates it. Removal by division with the scissors was followed by a spurt of arterial bleeding, and there was rather free secondary hæmorrhage. Adenoids, also present in abundance, were removed at the same time.

MR. WYATT WINGRAVE had made a microscopical examination of the growth (which proved to be an epithelial cyst). He reported that "The uvula itself simply exhibited dilated vessels and few muscle fibres. The cyst wall, covered with the stratified squamous epithelium of the region, was composed of thin layers of connective tissue, and contained large and small epithelial squames in various degrees of fatty degeneration. It was probably a 'rest' or Cohnheim's 'pearl,' commonly occurring in the palate."

(2) *Director for Nasal Infundibulum, acting without withdrawal as Curette and Thread-carrier.*

In operations for diseases of the frontal sinus it is sometimes necessary, and it is always taught that the infundibulum should be

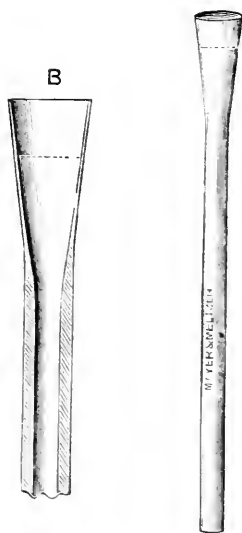


LENNOX BROWNE'S INFUNDIBULUM PROBE, CURETTE, AND BODKIN.

curetted. It is certainly often desirable to enlarge it. This, from the very curved direction of the canal, is difficult to do by any ordinary curette or sharp spoon of rigid steel. It is also sometimes not so easy to pass the director a second time for the purpose of drawing back the thread for attachment of the drainage-tube. The instrument under consideration effects everything with one passage.

(3) *Improved Infundibulum Drainage-tube.*

Another point of difficulty is sometimes occasioned in withdrawal of the drainage-tube when made according to the now generally recognised pattern of Luc, in which the cup being so much larger than the tube, and of the same thickness, more force than is desirable is required for withdrawing it when, some days after the operation, complete drainage has been effected.



LENNOX BROWNE'S INFUNDIBULUM DRAINAGE TUBES.—B, Funnel in section (full size), to show thinner walls. The dotted lines indicate where to reduce funnel, so as to prevent puckering when in position.

Alluding to Dr. Milligan's case, Mr. Lennox Browne could not agree with Dr. Hill that drainage should be dispensed with in these operations, and his own experience led him to advise that a longer retention of the drainage-tube than was generally considered necessary gave the best insurance against relapses of suppuration. The sufficiently large nasal opening advocated by Dr. Hill must always be controlled by the

close anatomical boundaries of the canal. The reader had tried the plan of making a V-shaped incision in the cup of the tube; but that is not always effective, and may lead to accumulation of secretion at the upper part of the passage. He has therefore had made for him a tube the larger end of which, instead of being cup-like, is funnel-shaped, and at an obtuse angle. The walls also are thinner than those of the tube itself. The dotted line on the illustration shows that it is possible to shorten the depth of the funnel after it has been introduced. This serves to prevent puckering of the funnel when in position.

The PRESIDENT. *Photograph of Chancre of Soft Palate.*

Dr. LAMB (Birmingham). A preparation illustrating the *Spontaneous Cure of Empyema of the Maxillary Antrum.*

The features of the preparation are :

(1) A carious second molar tooth ; the caries affecting the palatal fang. The tooth quite firm in its socket.

(2) A depressed and pitted cicatrix (atrophic rhinitis), occupy-

ing the whole of the middle meatus, but most marked at its anterior part, where pus from the antrum generally lies.

(3) Projecting upwards from the floor of the antrum, a short cylindrical tube of bone, leading down to the socket of the palatal fang of the carious molar. When the antrum was opened, this little tube of bone was perfectly covered with continuous mucous membrane.

Sequence of events :

(1) Dental caries, spreading to the floor of the antrum, and causing purulent infection of the cavity.

(2) Chronic empyema, overflowing, as usual, into the middle meatus, and causing a (local) atrophic rhinitis.

(3) Formation of a larger carious opening in the floor of the antrum, and the gradual drainage of the cavity through the palatal fang of the carious molar. During this process of drainage new bone was gradually deposited round the opening, forming the little tube.

(4) Discharge ceased, and the tube healed over and the tooth was roughly filled with creosote wadding, and amalgam tightly packed in.

The PRESIDENT delivered his inaugural address, "An Appreciation of Three British Aurists—Wilde, Toynbee, and Hinton."

OTOLOGY.

Dr. MILLIGAN described two cases of *Extra Dural Abscess*. Operation ; recovery.

Of the numerous and varied complications which may arise in connection with cases of chronic suppurative disease of the middle ear, not the least important is the occurrence of an extra dural abscess. Extra dural abscesses vary much in size, sometimes being quite small collections of pus, at other times attaining such dimensions as to contain several ounces. The most usual sites where they are found are (1) over the tegmen tympani ; (2) in the neighbourhood of the sigmoid groove, around the lateral sinus. In this last-named situation they are fraught with special danger, as thrombosis of the sinus is readily induced, with all its attendant risks. That large extra dural collections may, however, exist around the sinus without producing thrombosis is well shown by the records of cases published by Dr. Thomas Barr and others.

The symptoms produced by an extra dural abscess vary much in different cases. At times intermittent pain may be the one and only symptom ; at other times the symptoms are such as to make

it difficult to diagnose whether the case is not one of intracranial abscess, cerebral or cerebellar, or of meningitis. The two cases about to be recorded illustrate several of the points just mentioned.

Case 1: J. C., male, aged forty-eight, had complained for four weeks of severe pain in and around the right ear, upon the vertex, and over the occipital region, accompanied by a marked degree of deafness and by a constant beating noise in the affected ear. A diagnosis of neuralgia had been made, and treatment prescribed accordingly. When first I saw him, the right membrana tympani was intensely congested, all landmarks being obliterated. His hearing-power upon the affected side was nil. He complained of pain, which he referred to the mastoid and masto-occipital region. The pain was intermittent, but was always worse in the early hours of the morning. Occasionally he had attacks of vertigo, but never nausea or sickness. Pressure over the mastoid antrum produced pain, but not specially severe, while percussion over the masto-occipital region produced nothing more than a sense of discomfort. Slight constipation was complained of. His pulse ranged from 65 to 75, and his temperature was slightly subnormal. I at once incised the membrane by a free incision in its posterior segment, and washed out the cavity of the middle ear. A fair amount of discharge came away. The next day I again saw the patient. He had had a bad night. His pulse and temperature were as before. I ordered him to remain in bed, and put a cold Leiter's coil over the mastoid process. During the next few days the discharge was much more copious. The pain, however, was, if anything, worse. I therefore decided to open the antrum and explore farther, if necessary. The patient was accordingly put under chloroform, the antrum opened, and found to contain a small quantity of pus. As the amount of pus in the antrum could hardly be looked upon as sufficient to produce the serious symptoms complained of, I decided to open up the posterior fossa, and explore for an extra dural collection of pus. Upon opening up the part, pus at once welled out freely, probably at least 1 ounce escaping. Bone was now cut freely away, the cavity thus exposed carefully cleansed, dusted with iodoform and boric powder, and loosely packed with iodoform gauze. An uninterrupted recovery took place, the hearing-power also returning to the normal.

Case 2: F. H., male, aged twenty, was seen by me in consultation with Dr. Harrison, of Haslingden. He had had suppuration from both ears from childhood. For some months past he had complained of pain over the left side of the head and of occasional attacks of vertigo. The discharge from his left ear had been

gradually diminishing in amount until it had practically ceased. When first seen by Dr. Harrison he was in bed, complaining of very severe headache, accompanied by frequent attacks of sickness. His temperature was subnormal and his pulse slow. In fact, the clinical picture presented was one of intracranial abscess. Gradually these acute symptoms subsided, while at the same time the scalp covering the parietal and occipital bones became puffy and œdematous.

When first I saw the patient the condition found was as follows: The left internal meatus was full of fœtid pus. Upon being syringed the membrane was found almost completely destroyed and the mucosa lining of the middle ear in a granular condition. The hearing power was very poor, the watch being heard only on contact. The tissues behind the mastoid were much swollen, œdematous, and boggy. Undoubtedly pus was present, but the abscess was evidently not a sub-periosteal mastoid abscess, but a sub-periosteal parieto-occipital abscess. Severe pain was complained of on pressure. There was no nausea or sickness, no vertigo and no tinnitus. His temperature was 99° F. and his pulse 80. Operation was advised, and was performed the next day. The abscess cavity was opened up, a large quantity of fetid pus escaping. A fistula, quite the size of a sixpence, was found in the posterior part of the mastoid, close to its articulation, with the occipital bone leading into a large extra dural abscess, at the bottom of which the dura was found studded with vascular granulations. A careful toilet of the part was made, the granulations being freely scraped away and the raw surface rubbed with iodoform powder. A fairly tight packing of iodoform gauze was then introduced. The mastoid antrum was now opened, but was found to be practically in a normal condition. The patient made an excellent and rapid recovery.

The formation of such a fistula following an extra dural abscess is, in my experience at any rate, unique. Certainly, it is not a termination which should be looked for. Whenever symptoms point to the presence of an extra dural abscess, immediate exploration should, I believe, be made, for at any moment what is a localized pachy-meningitis may become generalized, or the pus may perforate the dura and set up an acute lepto-meningitis.

Dr. DUNDAS GRANT said he had brought a similar case before the Association one or two meetings ago.

Dr. DUNDAS GRANT (1) showed a case in which he had removed an *Epithelioma from the Auricle* and a photo showing the growth prior to operation. There was no recurrence.

Dr. MILLIGAN wished to congratulate Dr. Grant upon the very successful issue of the operation which he had performed. He would like to ask Dr. Grant if there was any history of traumatism. He himself had seen several cases of epithelioma of the auricle in which traumatism had played a by no means unimportant part.

(2) Described a case of *Acute Suppurative Middle Ear Disease, with Cortical Mastoiditis*. The discharge persisted until the cortical mastoid cells were opened, when it rapidly ceased; the perforation closed up, and the accompanying headache disappeared.

Dr. MILLIGAN said that he must disagree with his friend Dr. Grant as to the line of procedure which he had adopted in the cases just shown. Although Dr. Grant had secured excellent results in both his cases, he thought that it was advisable in all such cases, even those which had been diagnosed as sub-cortical abscesses, to open up the mastoid antrum, as the path of infection no doubt was from the middle ear through the antrum, and so on to the sub-cortical cells. He did not think it was necessary, or even advisable, to make a communication with the middle ear, but he thought that free drainage should be provided, the antral cavity forming the apex of a large triangle, the base of which was formed by the most superficial sub-cortical cells.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

(Continued.)

RICHARDS, GEORGE L., M.D. (Fall River, Mass.).—*Perichondritis of the Larynx, with a Report of Two Cases and the Exhibition of a New Tracheotomy-tube.*

After reviewing perichondritis as affecting the cartilages of the larynx, its varieties, causes, symptoms, treatment, two cases were reported. The first was one of carcinomatous perichondritis in a man of sixty. There was complete necrosis and destruction of one thyroid, with involvement of the two arytenoids. This case was of special interest on account of the difficulty attending the diagnosis up to a comparatively short time before death. There was a history of syphilis, and the cartilaginous rather than the soft parts were affected. The laryngoscopic examination was not sufficient to enable

one to positively differentiate between carcinoma and syphilis. This was the more difficult, inasmuch as large doses up to 120 grammes a day of KI were well borne, and for a time seemed to do positive good, all symptoms improving and hope entertained of recovery. This improvement was temporary only. Tracheotomy had to be done, and five months after death resulted. Microscopic examination showed the new growth to be epidermoid cancer with few nests.

The second case was one of acute primary perichondritis of the arytenoid and superior horn of the adjacent thyroid, due probably to exposure. A diagnosis of œdema of the larynx was made at first; later the arytenoid swelling was incised, but not deep enough to evacuate the pus. Tracheotomy was performed, but too late, as the abscess had already begun to discharge, and death resulted from septic pneumonia. Microscopic examination confirmed the diagnosis of perichondritis, the affected area being infiltrated with pus.

The tracheotomy-tube was devised for the first case reported, as the largest-sized tube of the ordinary type was very uncomfortable, and did not stay in place at all well. This tube was elliptical in shape and straight, the long diameter being about twice the short diameter, and the lower portion from before backwards being longer than the upper, inasmuch as the trachea itself lies farther from the surface the nearer it approaches the chest. There is an inner and outer tube as usually made. It is intended to enter the trachea about a quarter of an inch, and is held in place by a tape fastened round the neck. This tube is especially adapted for cases of low tracheotomy where a tube must be worn for a long time. It furnishes an abundant supply of air without irritating the trachea, is large enough so that mucus or anything else, as food, is easily coughed out of it, is readily removed for cleaning, and can be replaced by any intelligent person. It can be easily closed with a plug for laryngeal breathing or talking. The model shown could be improved on somewhat, but it is very good when it is considered that it was made by a local jeweller who had never seen anything of the kind before. The tube was worn in the case reported for several months.

RICHARDSON, CHARLES W. (Washington, D.C.).—*The After-Treatment of Restored Deflected Nasal Septum.*

The author in his paper called attention to the fact that this operation is not so simple, devoid of pain, and free from unpleasant complications as many writers on this subject would lead one to

assume to be the case. He suggests that many of these features could be lessened by a short continuous wearing of the splint. He claims that if the operation is done thoroughly, and the resilience of the septum entirely destroyed and the septum well placed in the new position, that a retention splint is only required for a period of seven days. He states that nothing can be gained by the frequent removal of the splint, and avers that harm often results to the success of the operation, and with great pain to the patient, by this method of daily changing the retaining apparatus. He always keeps his patients at rest in bed until all fever has subsided—a period ranging from three to five days. The nasal chambers are cleansed thrice daily with a carbolized alkaline spray by an attendant, and once daily by the surgeon himself. In conclusion, he states that in all cases of horizontal deflection of the septum involving only the cartilaginous septum, or both, and in many of the vertical deflections involving only the cartilaginous septum, the result of the operation is as satisfactory with a short continuous wearing of the splint as in a longer period of retention attended with frequent changing of the splint, and all discomfiture to the patient is markedly lessened by the shorter period of wearing the apparatus.

Dr. JOHN O. ROE, Rochester, N.Y.: My experience in the after-treatment of restored deflected nasal septum is somewhat different from that of my friend Dr. Richardson, in regard to the length of time that the dressing or splint should be worn, or, in other words, the length of time that the septum requires support.

Since I revised my method for correcting deflections of the nasal septum, about six years ago, I have been able in nearly all cases to dispense with the splint in from three to five days after the operation. When support is required for a longer period than this, I regard the operation as having been imperfectly performed, on account of the fact that all the resistance or resiliency of the cartilaginous portion of the septum had not been thoroughly overcome, or that the osseous portion had not been sufficiently broken up.

Deflection of the septum may be divided into two classes—one in which there is deviation of the cartilaginous portion alone, which constitutes about one-third of the cases; the other in which both the cartilaginous and osseous portions are deflected, which comprises the remaining two-thirds. The osseous portion alone may be deflected, but it does not occur sufficiently often to require especial consideration. The operation devised by Steel and modified by Asch is an operation for the correction of deviation of the cartilaginous portion alone, and, with all respect to my friend

Dr. Asch, I do not think it should be described as an operation for the correction of deflections of the cartilaginous portion alone, which is an excellent operation in many cases.

The method which I have adopted is as follows: Suppose we have to correct a deviation of both the cartilaginous and the anterior portion of the osseous portion, it is important to overcome thoroughly the elasticity of the cartilaginous portion. For this purpose I first make an oblique incision through the central portion of the deflected portion, beginning just above the point of the greatest curve. I make an oblique incision downward with a slender cartilage knife, with a finger in the opposite nostril. As the knife nears the perichondrium on the opposite side, the knife can readily be detected with the finger. Care is then taken not to cut through the perichondrium, but to take a thin, smooth, slender spatula, and raise the perichondrium for a short distance downwards to afford sufficient space for the upper edge of the cartilage to slide into. A perpendicular incision is then made at the point of the greatest deflection in the same manner as the first incision, and the perichondrium also raised for a short distance back. A longitudinal incision is then made at the beginning of the deflection along the upper and lower border with the finger in the opposite nostril to prevent cutting through the perichondrium and mucous membrane on the other side. In this manner the elasticity of the cartilaginous portion of the deflection is entirely overcome. The anterior edge of the osseous portion of the septum offers no resistance when thoroughly broken up, and the resistance of the posterior edge of the cartilaginous portion is overcome with the correction of the osseous portion. The latter is done with the instruments that I devised for this purpose, and with which you are doubtless all more or less familiar.

In performing the operation, the instrument is inserted with the male blade on the convex side of the septum. If the passage is very greatly narrowed or entirely obstructed, room can be made for the blade by pressing the septum over with a blunt spatula, which goes with the set of instruments. If the osseous portion is thoroughly broken up, which can be done with this fenestrated blade without injury to the soft tissue, and the elasticity of the cartilaginous portion completely overcome, the septum can be put in any position desired, it being necessary simply to place a dressing or support on one side, which should be the one toward which the septum has previously been deflected. This support should be of sufficient size to maintain the septum directly in the centre, for if too large, the septum can readily be forced over to the other side.

The dressing I employ is cotton wound on a flat piece of metal of suitable size. Before this is inserted, the nostril should be thoroughly irrigated and made aseptic with a solution of bichloride of mercury, 1,000 to 5,000. It is then dusted with iodoform, nasophen, or other antiseptic powder, and the plug inserted. If the nostril is made thoroughly aseptic, this dressing can be left in from four to five days without removal; by this time the septum is rendered sufficiently firm by the provisional callous thrown out from the osseous fragments to hold the septum erect. By having the elasticity of the septum so thoroughly overcome, the dressing is rendered entirely painless, for it is the pressure of the septum against the dressing that causes the pain in these cases. Before the operation is undertaken for correction of the deviation, all spurs and ridges of the septum should be removed.

Of course, we recognise the fact that no two cases are exactly alike, and that each must be dealt with according to the conditions found; but this is the general plan which I adopt with very gratifying results. In adults cocaine anæsthesia is usually sufficient; at least, all the preliminary work can be done under cocaine, or in cases where cocaine is not well borne, I employ eucaine. In some cases a little chloroform is necessary just at the time of breaking the osseous portion. Usually there is very little constitutional disturbance from the operation, and as there is no pain following it and no septic condition to cause any constitutional disturbance, the patient usually goes about his affairs, scarcely feeling worse than with an ordinary cold in the head. When the operation is required in children, and sometimes in very nervous or timid adults — particularly females — general anæsthesia is required.

Dr. PHILLIPS: I would like to ask if Dr. Roe has ever had any serious secondary hæmorrhage.

Dr. ROE: I never have had any hæmorrhage in straightening the nasal septum since I devised these instruments for performing the operation and have employed this method of dressing the nose.

Dr. PHILLIPS: A friend of mine had a very serious experience in a case on which he operated. The hæmorrhage was exceedingly severe, and it was almost impossible to control it by either post-nasal plugging or other means, and he was finally compelled to resort to intravenous injections to sustain the patient.

Dr. ROE: Doubtless a hard rubber tube was used. In cases where there is a tendency to bleed during the operation, the aqueous extract of the suprarenal glands is of service, and directly after the operation I use the cotton plug saturated with the bichloride solu-

tion, and then pour over it a small amount of a saturated solution of tannin in alcohol, which readily controls all hæmorrhage.

Dr. PHILLIPS : In the case of which I speak, the operation was performed about three o'clock in the afternoon, and the hæmorrhage commenced in the evening.

Dr. ROE : If this method of plugging the nose, which I have described, had been employed, I am quite of the opinion that there would have been no hæmorrhage. Hæmorrhage from the cartilaginous portion of the nose can generally be very easily controlled by grasping the nose between the thumb and finger as close to the face as possible : and by holding it firmly for a few minutes the bleeding will cease.

Dr. ROBERT C. MYLES, New York : This subject has excited a great deal of interest in the City of New York lately, and at the present time there is a very enthusiastic crusade in favour of the Asch operation. My experience differs a little from some authorities on the subject. I have had some failures. I have observed that for the union to become fixed it takes from six weeks to two months. I have never seen any case in which the elasticity of the cartilaginous portion has been destroyed save by incision. One can stretch it, double it up, but it will go back again. If one goes further, and breaks or dislocates the bony plates of the ethmoid, vomer, and the nasal spine, he will secure fixation by osseous union, with little interference from resiliency. The vomer is quite thick in its anterior inferior part, and I have never been able to fracture it properly without ether.

Dr. WENDELL C. PHILLIPS, New York : I have been very much interested in the paper and in the discussion, especially with the remarks of Dr. Roe, and his description of his operation. Now I think Dr. Roe's experience is very unique, for it differs materially from that of operators in general whom I have heard speak upon the subject. In my experience, it is a serious, bloody operation. I have never done the operation without severe hæmorrhage, not necessarily dangerous, perhaps, but certainly severe. I cannot understand how Dr. Roe can cut a cartilaginous septum, make two incisions through the septum, without cutting bloodvessels in many places, which would give rise to serious hæmorrhage. As to the destruction of the bony septum, I very much question whether we ever fracture the bone septum to any extent. We may separate the cartilaginous from the bony portion ; but I have always felt that we never do get far back into the bony portion. I am very glad that Dr. Roe can accomplish so much in such a remarkable manner, and I wish that I could do it myself. The Asch opera-

tion, so far as cartilaginous septum is concerned, has furnished a good proportion of successes. I regard two things as essential in every operation. First, to overcome the resilience of your septum, and the second is to get a suitable splint, and hold it in place long enough to get such a union that there will be no falling back again. Now, in New York, where I am familiar with the methods in use, the splints are left in from four to six weeks. There is also, following these operations, very often serious secondary inflammation, and there is a great deal of swelling of the tissue—so much so that it is customary in severe cases to keep iced cloths upon the nose a day or two. I wish very much we had one of these cases here now, that we could see the operation performed in the manner indicated by Dr. Roe. I am sure we would all appreciate it very much.

Dr. HENRY L. WAGNER, San Francisco: Referring to serious hæmorrhages of the upper respiratory organs, I must admit that I have had cases in which very serious hæmorrhages have occurred; but of late I have been using a preparation which has been advocated to retract the bloodvessels in mucous membranes. I have experience in the extract of the suprarenal capsule. I have applied it before the operation, and have had hardly any bleeding. In tonsillotomy I have injected a few drops into the crypts, and only a few drops of blood appeared. First apply the cocaine, and then the preparation. I am using within the last few months a more concentrated solution, and have had no bleeding whatever. It is certainly a great source of confidence, both for the doctor as well as to his patient, to know that the operation can be performed without any hæmorrhage.

Dr. HOLBROOK CURTIS, New York: When I hear men talk in this way about no hæmorrhage and about the extract of the suprarenal capsule, it seems to me almost as miraculous as the story of the loaves and fishes. Of course, we do not have serious hæmorrhage in all of these cases. We may operate on case after case with little or no hæmorrhage, but the time will come to all of us when there will be hæmorrhage that will be almost impossible to control; and it may occur to Dr. Roe next week, and he will have to resort to every measure known to surgical science to control it, and before he controls it he may wonder why surgical science has not devised a more satisfactory and certain method of doing so.

Dr. CHAS. W. RICHARDSON, Washington, D.C.: Dr. Roe says that he disagrees with me, but I think he agrees with me. I quite agree with him. If the deflection is thoroughly broken down, and there is absolute and complete support at the back and side, I think

within a week sufficient union will have taken place to warrant the removal of the splints. I know, as Dr. Myles has said, of the importance of leaving the nose in a good breathing condition; but in the majority of cases, if great care is taken in the operation, we can get good breathing. I, in company with most of the other gentlemen who have spoken, have had my experience with severe hæmorrhages. I had one about three weeks ago, and sat up with the patient for over three hours. And when the bleeding was finally stopped it was due to kind Providence rather than any efforts on my part. As to the use of the suprarenal capsule extract, I have seen several good reports of the use of this remedy, and I am inclined to try it myself.

PRESENTATION OF INSTRUMENT.

Jos. E. Willetts, Pittsburgh.—On p. 86 of the 1896 Transactions of this society will be found a cut and description of a Eustachian cannula. Inasmuch as a number of questions have been asked concerning this instrument, I will now exhibit it. The ordinary method of treating the tympanic cavity is by forcing a solution through a catheter by means of an air-bag, but as the cavity is distended first by the air-pressure, it is a question how much of the solution goes into it. The cannula which is exhibited is made much on the same principle as a uterine irrigator, and gives a return current of air, thus allowing the entrance of the solution into the cavity. It possesses all the advantages of the Eustachian catheter, and in addition has a separate exit canal. This permits the introduction of a continuous vapour-current over the diseased area.

NOTE ON THE PATHOLOGY OF THE LINGUAL TONSIL.

By LENNIX BROWNE, F.R.C.S. Ed.,

Ex-President of the British Laryngological Association, Senior Surgeon of the Central London Throat and Ear Hospital.

ON the occasion of the meeting of the French Society of Laryngology—an abstract report of which appears in the *Journal* for November—from a desire to economize time, I only reported certain conclusions: and from consideration for the majority of my audience, I asked M. Luc, of Paris, to read them, my own pronunciation of the language being rather that of “Stratford-atte-le-Bow.” Had my communication been given in full, or had I personally had the audacity to defend my thesis in the language of the meeting, several points alluded to in the discussion by various

speakers would, I venture to think, have gained elucidation; and this note is written to that end.

In the first place, it is twenty years ago since Dr. Dundas Grant, when acting as registrar at the Central Throat and Ear Hospital, found that first in order of frequency of objective causes in cases which presented themselves with the symptoms generalized as *globus hystericus*, was fulness, and even varicosity of the veins at the base of the tongue. Questions were asked of Dr. Escat as to divergence of views on the relation of varix to hypertrophy. My communication had emphasized his statement that "Verneuil had noted a deep as well as a superficial varix of the veins at the base of the tongue; while the anatomical observations of Zuckerkandl and Foucher, that the lingual nerve is accompanied by one or more satellite veins," would be sufficient to confirm the causal relation of the varix with the local neuroses; and lastly, so far from expressing ignorance as to whether Lewin (not Loewin), of Berlin, had employed the term "hæmorrhoids," which had been accredited to me, I quoted from his writings in 1863 to show that the term absolutely originated with that observer.

In view of a decided opposition to the opinion, no longer peculiar to myself, that lingual varix is often responsible for definite symptoms of discomfort, it is desirable to quote the exact words of Lewin. They occur as a part of his remarks on *Pharyngitis Varicosa*, and are as follows: "I may mention other cases, in men as well as in women, who seemed to be affected with general plethora, and who said the cause of their trouble was 'hidden hæmorrhoids' (*versteckte Hæmorrhoiden*). I found in the throat the following state: From the insertion of the epiglottis to the middle of the tongue, a number of injected, blue-reddish, elevated veins were seen, which crossed the circumvallate papillæ. Some veins were found near the margins of the tongue, giving off small branches, which terminated in small points, of enlarged veins the size of a pinhead, the whole thing looking like 'grapes.' A number of these patients suffered from blood-spitting.

"In some of these cases I saw in the fossa navicularis laryngis, parallel to the 'plica-crico-pharyngea,' a bluish-red vein, as thick as a crow-quill. All these persons were healthy, except that they suffered from abdominal and hepatic plethora and their throat troubles." These last, in 1865, Lewin more fully described as "sensations of scraping, burning, and dryness in the pharynx" (*Kratzen, Brennen, Trockenheit*).

Abstracts.

LARYNX.

Avellis, G. (Frankfort-on-Main).—*Case of not quite Sudden Death from Enlargement (Vicarious) of the Thymus, the Spleen being rudimentary.* "Archiv für Laryngologie und Rhinologie," Bd. VIII., Heft 1.

THE patient was a boy, four years old, very strong, and exceptionally well nourished, who was apparently in perfect health.

At seven o'clock he breakfasted heartily, and about ten his breathing suddenly became loud, groaning and stridulous, his face blue, and with slow, deep, and difficult inspirations he struggled for air.

The author saw him shortly after. There was no diphtheritic exudation in the pharynx; the intercostal spaces were retracted; the patient bent himself backwards during inspiration; the pulse was still perceptible. After about fifteen respirations he was dead.

Death was unaccompanied by convulsions, and took place within two hours of the onset of the difficulty in breathing.

At the post-mortem examination nothing abnormal was found in the brain; the lungs were free and only engorged; the intestines were healthy; no enlargement of bronchial glands; pharynx normal; larynx normal; vocal cords snowy white and not swollen; no œdema at entrance to larynx; no foreign body.

On the other hand, the thymus was enlarged and vascular. A smooth-walled cavity, as large as a cherry, with gray, viscous, pus-like contents, was found in its substance. The spleen was rudimentary, dark blue, as large as the thumb-nail, and from 3 to 4 mm. thick.

The other organs were healthy.

The author refers to our want of knowledge as to what may be regarded as the normal size of the thymus at different ages. Mettenheimer came to the conclusion that the weight of the thymus corresponded rather with the state of nutrition than with the age of the child. It is possible that in the above case the unusual size of the patient, together with the rudimentary condition of the spleen, accounted for the enlargement of the thymus.

It is known that some peculiar relations exist between the thymus and spleen. Friedleben held that the smaller the thymus becomes as age advances, the greater is the growth of the spleen. Schaffer also showed that there appeared to be a reciprocal relation between the spleen and thymus, so that when the one was rich in nucleated red blood corpuscles the other was poor.

The author therefore considers himself justified in regarding the enlargement of the thymus in the above case as functional and vicarious, to which the child's abnormal growth and very strong constitution perhaps predisposed him.

Had the above view of the case been taken in time, death might have been prevented by drawing out the thymus from the mediastinum and fixing it to the edges of the wound.

Investigations into the relations of the spleen to the thymus are not conclusive, for hitherto the condition of the bone-marrow has been disregarded.

As to the mode in which death is produced by an enlarged thymus—whether by stenosis of the trachea, or by pressure on the vessels or nerves—the author is unable to express an opinion, because the post-mortem examination of his case was not properly made. Instead of the thymus and trachea being cut transversely *in situ*, the usual method was adopted. It is just in consequence of this mistaken procedure that a large number of writers hold that there is no proof of a death having been caused by enlargement of the thymus. Weigert, however, has demonstrated a specimen in which a marked compression of the air-tract was caused by an enlarged thymus, and at least two other similar cases are now on record.

The size of the upper aperture of the chest is of importance in such cases. Pott has shown by anatomical measurements that the distance between the manubrium sterni and the vertebral column up to the second year is from 2 to 3 cm. In five out of ten cases reported by Pott, the thickness of the thymus even after death amounted to 2 cm.

The marked bending backwards of the head may also play a part. In this position the trachea can be completely closed by the thymus, which is squeezed between it and the sternum. If death took place under such circumstances, and the necropsy were performed in the usual manner, the cause of death would escape notice. The trachea ought to be opened in the neck and examined from above with artificial light, or transverse sections should be made through thymus and trachea, their relations to one another being undisturbed.

A. B. Kelly.

Avellis, G. (Frankfort-on-Main).—*What is the So-called Typical Inspiratory Stridor of Infants?* "Archiv für Laryngologie und Rhinologie," Bd. VIII., Heft 2.

In the course of the last two years the author has examined several infants suffering with the so-called inspiratory stridor. As a result of the study of these cases, he holds that the present generally accepted view as to the nature of this affection is incorrect.

The following case gives a clinical picture of the disease: A three-months-old child was brought to the author with loud croup-like respirations, but instead of suffering and being seriously ill, the infant was brisk and not at all oppressed. The pharynx was free; the epiglottis normal, and during inspiration motionless, while the arytenoids moved; a further view of the larynx was not obtainable. The intercostal spaces and the epigastrium retracted with inspiration; no fever; no hoarseness; pulse normal; no rickets; no craniotabes; no cyanosis; no enlarged glands; no retropharyngeal abscess. Fed well, although hindered by the stridor; steady increase in weight. No cough, no dulness over the sternum. Both parents young and healthy, and without tubercular taint.

According to the history given, fourteen days after birth the breathing became noisy. At night the inspiration was accompanied by a loud sound, and respiration was prolonged. Sometimes the noise was greater, so that the terrified parents lifted the infant out of bed. While sitting up, the difficulty in breathing was less than when lying. The noise had continued uninterruptedly for two and a half months; only the severity of the stridor varied. In spite of that, the child thrived, and took milk readily, although drinking often considerably increased the respiratory difficulty.

After observing the child for three weeks, during which bromide of

potash was given without producing any change in the condition above described, the author came to the conclusion that he had to deal with a disease (*sui generis*) which had been described by Thomson as "infantile respiratory spasm," and by Lörri as "clonic spasm of the glottis of the newly-born and of infants."

McBride, Semon, Herzfeld, and Stumm have also seen such cases.

Lörri found in the great majority of these cases that, when the inspiration was at its height, the vocal cords came quickly together, so that for an instant the glottis was closed, and that with the beginning of expiration the cords again separated. In two cases, on the contrary, a brief closure of the glottis occurred during expiration.

Semon considers that in all probability there is a constant irritation of the cortical laryngeal centres from causes as yet unknown.

Lörri's observations do not explain the various features in the clinical picture. Nor is a condition which may persist for one or two years likely to be due to a neurosis, the irritation of the cortical laryngeal centres being so strictly localized that never for an instant does it affect a neighbouring centre, leading to convulsive movements of the face or extremities.

Quite recently Sutherland and Lack have dealt with this subject. The latter observed two cases of congenital laryngeal stridor which recovered after the second year. He found the epiglottis much compressed laterally, and the aryepiglottic folds with each inspiration flapped inwards. As the larynx developed, the symptoms disappeared, but the congenital form of the epiglottis persisted, in spite of the cessation of the stridor. The author therefore concludes that it was not the cause of the stridor, and that the sucking in of the aryepiglottic folds was secondary to a more deeply-seated stenosis, just as nasal obstruction may cause the indrawing of the alæ of the nose.

Bilateral paralysis of the abductors would better explain the constant inspiratory stridor without hoarseness. Two facts, however, oppose such a view: 1. According to Semon the disease has never been proved to occur in infants. 2. There is no discoverable reason why this disease almost always passes off after some months; for the great majority of all the cases known to the author have ended in perfect recovery; indeed, the spontaneous cure is so characteristic of the disease that treatment has been regarded as unnecessary by writers on the subject.

While these views were under the author's consideration, he saw a boy, aged four years, who in consequence of sudden, severe, intermittent stridor died. At the post-mortem, a large vascular thymus and rudimentary spleen were found, besides the usual appearances of engorgement. This case suggested the possibility of pressure of the thymus as the cause of inspiratory stridor in infants, and from this standpoint the author reviews four cases that he has observed.

The similarity of all these cases is unmistakable. In one the stridor was congenital; in another it set in on the fourteenth day; and in the two others about four weeks after birth. The children are not ill, but the stridor disturbs them while drinking, or if they are moved quickly. Sometimes the narrowing increases so as to cause cyanosis and slight suffocation. This condition has a distant resemblance to laryngeal spasm. No eclampsia or tetanic convulsions, no stage of apnoea, and no fit. Only a temporary increase in the narrowing of the air-tract, which does not cease suddenly with a deep inspiration followed by normal inaudible breathing, but passes off gradually into

the previous sound caused by the stenosis. Cough is quite absent unless bronchitis be a complication. The infants evince no anxiety, and the condition persists for months.

Neither his own observations nor the statements of others enable the author to determine whether the condition may exercise a prejudicial effect in after-life. Professor Moritz Schmidt has informed him, however, that in a lady aged twenty-five, who had suffered from inspiratory stridor when an infant, he found a narrowing of the trachea.

In order to explain the etiology of this affection, a case which was under Moritz Schmidt is described. The patient, a boy of two and a half years, had had for five weeks constant difficulty in breathing, with occasional attacks in which he became blue and anxiously gasped for breath. Laryngismus stridulus was diagnosed, and tracheotomy performed, but without benefit. Only on the introduction of a long cannula was the breathing relieved. Under the supposition that the trachea was compressed by some of the contents of the mediastinum, the latter was opened by Rehn, the thymus drawn forward and stitched to the fascia over the sternum. The cannula was then removed, and the child breathed easily. This case proves that the thymus can produce a chronic stridulous breathing in children.

Fritz König had a somewhat similar case. A boy, aged three months, in whom stridor had set in in the second week, was relieved by extirpation of a part of the thymus and the drawing forward of the remainder. The diagnosis of pressure by the thymus was strengthened by the presence of a soft swelling in the anterior part of the neck.

This condition is not now recognised for the first time. Allan Burns, at the beginning of the century, recommended as a last resort removal of the thymus when enlarged.

The author's opinion, that an enlarged thymus is the cause of the disease under consideration, is supported by Glöckler, who has seen three cases in which nothing but an enlarged thymus gland could be found as the cause of death from suffocation after prolonged dyspnoea. In one of these cases Weigert demonstrated that the trachea was compressed by the thymus.

The following facts favour the theory of stenosis of the trachea and bronchi by the thymus: 1. The age of the child. 2. The frequent spontaneous cure in the second year after having been present for several months. 3. That it may be congenital. 4. The manner in which cure takes place (stridor becomes again apparent on moving the child much). 5. The temporary cessation of stridor on changing the position of the body. 6. The absence of abnormality in the larynx. 7. The high position of the larynx. 8. The entry of air more freely into one bronchus than the other, so that the retraction of the chest and respiratory murmur are unequal on the two sides. 9. The result of operation.

If the stenosis were caused by enlarged bronchial glands, some of the following conditions would also be present: Pain at the level of the fourth dorsal vertebra; dulness between the shoulder-blades and on one or both sides over the sternum; irritable cough, persisting for a considerable time and resembling whooping-cough; the presence of glandular swellings; sometimes dysphagia; symptoms of engorgement; strumous and tubercular taint; occasionally hoarseness. The Roentgen

rays might also aid in differentiating. The two conditions may, however, occur together.

Thomson's descriptions, the cases operated upon by Rehn and König, and the author's own observations, dealt with children in whom there was no evidence of enlarged bronchial glands; the author therefore regards them as cases of thymic asthma, or, better termed, tracheostenosis thymica.

He has accordingly employed tablets of thymus gland and spleen substance. Small children can take half a tablet daily. Spontaneous cure usually sets in in from six to fourteen months, not by gradual diminution of the thymus, however, but by increased space in the thoracic cavity, and perhaps also by additional elasticity and power of resistance of the tracheal cartilages.

A. B. Kelly.

Codd—*The Utility of Intubation of the Larynx*. "Birmingham Medical Review," August, 1898.

THIS is an interesting account of the author's modification of O'Dwyer's method. The operation is considered to be of much value.

B. T. Baron.

Damieno. Dr. Anto. (Naples).—*Angioneurotic Edema of the Larynx*. "Archivi Italiani di Laringologia," July, 1898.

THE patient, a previously healthy man of sixty, with excellent personal and family history, while walking on the seashore suddenly felt his nose and eyelids swelling. In the course of twenty-four hours, notwithstanding treatment, the cheeks and neck had become greatly distended, the mucous membrane of the mouth and pharynx red and cedematous, the uvula "as large as a pigeon's egg," with a projection on the left side "as big as a cherry." Laryngoscopy was impossible, and the patient was obviously suffocating. The uvula was scarified, and an O'Dwyer's tube introduced, rendering a digital examination possible. The epiglottis and ary-epiglottic ligaments were enormously swollen, giving the sensation of touching a mass of *lunbrici*. In a few minutes a larger tube was substituted, but owing to the rapid subsidence of the edema this was coughed up shortly after, and it was not necessary to replace it. The urgent symptoms had all disappeared within fifteen minutes after the introduction of the first tube.

Dr. Damieno claims that this was a case of that extremely rare affection edema angioneuroticum, of which there is no account in laryngological literature save the description given by P. Strübing at the Berlin Congress in 1886. Massei recently reported a case in which all the symptoms pointed to this malady, but the patient had died before he reached him, the only morbid appearance remaining being "a slight swelling and pallor of the outer surface of the left arytenoid." Damieno considers that the absence of fever and pain, as well as of any morbid process in the larynx or adjacent parts, and especially the rapid course of the affection, exclude the idea of any infectious, constitutional, or mechanical cause. He therefore attributes the symptoms to vaso-motor disturbance, and, relying on the results of Ostroumoff's experiments, advances the theory of spasm of the *vaso-dilator nerves*. At the same time he confesses ignorance of the primary cause which can alter the vaso-motor conditions in a limited region so profoundly as to cause a rapid serous exudation, which, however innocuous pathologically, may become most grave and fatal from the site in which it develops.

Strübing, while declaring that scarifications are sufficient to remove the œdema, foresaw cases in which immediate tracheotomy might become necessary. This was in 1886, when O'Dwyer had but recently introduced intubation, and, in view of the great development of this procedure, its comparative simplicity and freedom from later pulmonary and general complications, Damieno thinks it is infinitely to be preferred to tracheotomy.

James Donelan.

Hugel, Dr. K.—*Treatment of Laryngismus.* "Münchener Medicinische Wochenschrift," No. 44, 1898.

In this paper Hugel wishes to draw attention to elongated uvula as a factor in the causation of laryngismus, and possibly also inspiratory stridor. Various authors have described cases where a hypertrophic or inflammatory enlarged uvula had produced spasm of the glottis, but in practice this cause has received little attention. He refers to a case where at the postmortem death was ascribed to an elongated uvula. In four cases where the uvula was amputated, slight attacks occurred afterwards for a short time and then disappeared. In a fifth case there were no attacks after operation. In this connection Mantle's paper ("British Medical Journal," 1890) is of interest. Enlargement may be congenital, due to œdema of the palate, the result of chronic catarrh, muscular paralysis, acute catarrhal or papilloma. Clinical appearances closely resembling congenital inspiratory stridor may also be produced by an elongated uvula.

Guild.

Joal, Dr. (Mont Dore).—*The Classification of Voices.* "Revue Hebdomadaire de Laryngologie," Nos. 20 and 21, 1898.

THE writer is of the opinion that the classification of the voice should not be undertaken exclusively by the teacher of singing, but to some extent in collaboration with the laryngologist. He points out how frequently errors of diagnosis on the part of the teacher occur, and quotes a number of cases in which a change of opinion as to the nature of the voice has had to be made, some having been observed by himself, and others narrated by various authors. Among these cases are many of artists of considerable celebrity, such as Jenny Lind, Mario, Sims Reeves, Faure, Mongini, Nicolini, Mierzinski, Jean de Reszké.

He thinks that laryngoscopical examination can afford very important information in the majority of cases, and considers:

1. That the nature (*tessiture*) of the voice depends on the length of the vocal cords, and that those pupils who have the chest (thick) register, extending to a considerable height in the scale, have short cords with thin edges.

2. That the head (thin) register is easy and extensive in proportion as the cords are short and thin.

3. That the volume of the voice, with equal respiratory force, increases in proportion to the width and length of the vocal cords.

He goes on to describe the signs furnished by the examination of the larynx, the chest, and the resonating cavities by which the distinctive characters, as tenor, baritone, bass, soprano, mezzo-soprano, and contralto, may be recognised.

Given the same anatomical and physiological conditions, the same variety of voice is produced; but there are exceptions, although these are less frequent than has been generally admitted, and cases considered in the first instance to be exceptions, turn out eventually to be examples of mistaken diagnosis. The writer has only met with six

cases in which the voice has presented characters different from what the results of his examination would have led him to expect, and he counts his observations by hundreds. These instances occurred in a mezzo, and bass, and four baritones (who were transformed into robust tenors). Dr. Joal explains how these four, who were men of unusually powerful physique, were able to modify the quality and the nature of their voice.

(These remarkable observations will be read with great interest by all laryngologists, who will no doubt be led to concentrate their attention on this subject, but it will be with no light heart that they accept the additional responsibility thus thrust upon them.—*Abs.*)

Dundas Grant.

Kelly, A. Brown (Glasgow).—*Large Pulsating Vessels in the Pharynx.* "Glasgow Medical Journal." January, 1898.

Four cases are reported

CASE I.—A man, aged seventy-five, presented a large pulsating vessel projecting from the angle between the posterior and right lateral walls of the pharynx. It emerged from the posterior wall about the level of the upper border of the epiglottis, and ascended vertically, becoming gradually more prominent. When opposite the upper part of the tonsil, where its convexity was most marked and its pulsations best seen, it curved outwards and disappeared in the tissues at the side of the nasopharynx. It was fully as thick as a pencil, and extended laterally over a considerable part of the posterior wall of the pharynx. The mucous membrane covering it was normal. Pressure over the large vessels on the right side of the neck, above the level of the upper border of the thyroid cartilage, checked the pulsation in the pharynx. Nothing abnormal was detected in the condition of the walls of the vessel, nor in those of the temporal or radial arteries. There were no symptoms that could be attributed to its presence. The appearances remained unchanged during nine months.

CASE II.—A woman, aged seventy-five. A prominent vessel was found in her pharynx, somewhat smaller than that in the case just described, but otherwise the same as regards appearance and position. She had experienced no unusual sensations in the throat.

CASE III.—A man, aged seventy-two, presented a marked prominence on the posterior wall of his pharynx, somewhat resembling a post-pharyngeal abscess; the fact that it pulsated, however, indicated its true nature. This large vessel emerged from the left half of the posterior wall of the pharynx on a level with the attachment of the posterior pillar, and curved upwards and outwards, passing behind the upper part of the pillar. The pulsations were most marked on its convex part. It caused no symptoms.

CASE IV.—A woman, aged twenty-two. Very marked pulsation was seen behind both posterior faucial pillars. On the right side the vessel had much the same appearance as in Case I., the shelving projection extending half way to the middle line. On the left side it was less prominent, but the pulsations were as pronounced, and could be traced along the lateral wall of the pharynx for about an inch. The pulsations were not perceptible to the patient.

The cases on record in which a large vessel has projected into the pharynx are few. From these it is evident that this anomaly is found chiefly in the aged, especially in females, and that it gives rise to no subjective sensations in the throat. The appearance usually noted was

that of a pulsating vessel, as thick as a pencil, running in a vertical direction behind the posterior pillar of the fauces. It has been generally regarded as an enlarged ascending pharyngeal artery.

Two of the above cases were examined by palpation, and the pulsating vessel in the pharynx was found to correspond to the convexity of an abnormal bend of the internal carotid.

Dubruel and Barkow describe a tortuous condition of the internal carotid, and a specimen in the Glasgow University Museum presenting this abnormality was brought under the author's notice. In this, each artery ascends normally to within $2\frac{1}{2}$ inches of the carotid canal, when its course tends slightly outwards. After running thus for over an inch it turns abruptly inwards and downwards, being thus doubled upon itself, and descends for an inch. It then bends sharply forwards and upwards, and ascends with a slight inclination outwards to the carotid canal, a distance of 2 inches. In consequence of this tortuosity, the artery approaches half an inch closer to the middle line than if it had followed the normal course.

It is evident that some, if not all, of the cases of "large pulsating vessels in the pharynx" are due to a tortuous condition of the internal carotids, for the prominent part of the lower bend in the specimen just described would produce an appearance in the living subject similar to that observed in Cases I., II., and IV.

A. B. Kelly.

Klaussner, Prof. F. (München).—*Orthoform und "Orthoform neu."* "Münchener Medicinische Wochenschrift," No. 42, 1898.

THE new orthoform resembles closely in chemical composition the old orthoform. It is uniformly fine, whiter in colour, less cohesive, and cheaper. It may be used in a 10 to 20 per cent. mixture with starch, etc. It has been recommended in laryngeal ulceration; it does not have the disadvantages of cocaine. The anæsthesia produced lasts from eighteen to thirty-six hours. It is non-poisonous. Lichtwitz recommends orthoform in rhinorrhœa due to reflex irritation of the nasal mucous membrane, and especially in hay-fever. Its anæsthetic action is useful in Schleich's infiltration anæsthesia, and as an injection combined with arsenic in inoperable malignant disease.

Guild.

Linkenheld, Dr. L. (Ems).—*Zwei Fälle von Kehlkopfschwindel (Ictus laryngis).* "Deutsche Medicinische Wochenschrift," No. 41, 1898.

THIS paper is a lengthy description of two cases of laryngeal vertigo. The exciting cause appears to have been irritation of the pharynx by excessive use of tobacco, and irritation of the posterior laryngeal wall through the passage downwards of nasal mucus.

Guild.

Roemheld, Dr. L. (Assistant).—*Impermeable Stricture of Œsophagus.* From the University Clinique at Heidelberg. "Münchener Medicinische Wochenschrift," No. 46.

PATIENT was a boy four years of age, who had acquired stricture of the œsophagus from swallowing caustic soda. The smallest bougie would not pass into the stomach; the constriction was situated 20 cm. from the teeth. Attempts to dilate by passing bougies from the mouth having failed owing to vomiting and restlessness of the patient, gastrostomy was performed by Professor Vierordt. Shortly thereafter a small bougie was passed into the stricture, and as the patient became accustomed to this treatment, a bougie was passed from below upwards

to the mouth. To its lower end a conical point was fixed; from day to day this was pulled further into the stricture, so that lasting dilatation was produced. After five months' treatment he was able to swallow minced meat. The gastrostomy wound was closed nine months later, and five months afterwards the child, who had been two and a half years in hospital, was dismissed cured. *Guild.*

Rosenberg, A. (Berlin).—*The Treatment of Laryngeal Papillomata in Children.* "Archiv für Laryngologie und Rhinologie," Bd. V.

IN the Berlin University Policlinic for diseases of the throat and nose, 27,500 patients were treated in nine years; of these, 5,808 (3,052 boys and 2,756 girls) were under thirteen years of age. Amongst the 22,692 adults, 153 suffered from benign and 20 from malignant laryngeal growths (singers' nodules are left out of account); thus, 1 adult in every 131 had a tumour of the larynx. In the 508 children there were 16 cases of laryngeal papilloma (1 in 363).

Other observers confirm the comparative frequency of laryngeal papillomata in children. Massei writes that in 464 cases of laryngeal growths, a large proportion of these were papillomas, and that children were very often affected. Schrötter, in 56,498 patients, had 7,324 children under ten years; of these, 10 had benign growths, and of the adults, 220. From these statistics, laryngeal tumours occur almost thrice as frequently in adults as in children.

Of the author's 16 cases, 9 were boys and 7 were girls; the latter are therefore proportionately oftener affected. Causit, however, in 42 cases had twice as many boys as girls. Gerhardt gives a proportion of 1.7 to 1; and Rauchfuss, 1.9 to 1. Taking all the reported cases, the author has collected 231. In 35 of these the sex is not mentioned; of the remaining 196, 108 were boys and 88 girls, giving a proportion of about 5 to 4.

The poor furnish relatively a larger contingent of patients than the better classes.

The author briefly reports 19 cases, including 3 in private practice, which he has treated.

In order to compare the relative value of thyrotomy with the endolaryngeal operation, the author has collected all the published cases and placed them in three groups according as they were treated by thyrotomy, tracheotomy, or by intralaryngeal means. A strict classification was not possible, however, as in some cases intralaryngeal operations had been followed by thyrotomy, and *vice versa*.

Altogether, 88 cases of laryngeal papillomata in children (under thirteen years) were treated by thyrotomy; of these, 37 were boys, 38 girls, and in 13 instances the sex was not mentioned. Seven were under two years; 38 between two and four years; 14 from four to six years; 8 from six to eight years; and 16 from eight to thirteen years. In 5 cases the age is not noted.

The result of the operation may be stated as follows: In 17 cases death from diphtheria, bronchitis, pneumonia, or suffocation (nearly always from recurrence of the papillomata); in 5 cases the result is not reported; in 34 cases, recurrence; in 32 cases, cure; in 6, with the voice affected; in 1, with the breathing disturbed; in 1, with necrosis of the cartilage; in 2, with a fistula; and in 3 the cure was only temporary.

Bruns comes to the same conclusion. Of his 21 cases, 3 died, 1 had to wear a tracheal cannula permanently, in 9 there was

recurrence, and in 8 a cure was noted, although strictly reckoned in only 4 was a perfect cure obtained.

In the author's table, 37 per cent. were cured; in Bruns's, 38 per cent. The author noted recurrence in 38.5 per cent.; Bruns, in 42.9 per cent. Death took place, according to the author's statistics, in 19.3 per cent.; according to Bruns', in 14 per cent.

The tracheotomy table contains 34 cases (16 boys, 10 girls). Four were under two years; 7 from two to four years; 11 from four to six years; 1 from six to eight years; and 4 from eight to thirteen years; in 7 the age is not stated.

Of these 34 patients 11 died; in 3 the result was doubtful; in 3 recurrence took place; in 1 a temporary cure and in 16 a permanent cure was obtained.

In the third table 48 cases (20 boys and 17 girls) are placed, which had been treated by intralaryngeal means. Of these, 2 were under two years; 7 from two to four years; 9 from four to six years; 8 from six to eight years; and 13 from eight to thirteen years.

Of these 48 cases 3 died; in 7 the result was doubtful; in 6, improvement; in 4, temporary cure; and in 27, cure.

In Bruns's table, which includes cases up to 1879, and of which the author's table forms a continuation, 40 cases are noted. Of these, none died; in 2 cases the result was doubtful; in 5, recurrence without cure; in 3, improvement; in 13, cure, with voice affected; in 17, perfect cure.

These statistics show that the percentage of cures is higher by intralaryngeal treatment than by thyrotomy. Further, they would lead one to adopt the following order of procedure in treating such cases: First, to try intralaryngeal means patiently so long as marked dyspnoea was absent; failing this, to perform tracheotomy, and then employ intralaryngeal treatment; and only in urgent and very severe cases to have recourse to thyrotomy.

The various kinds of intralaryngeal treatment by means of cutting forceps, caustics, intubation (including Lichtwitz's modification), and sponges are referred to; the snare receives special commendation. Autoscopy is sometimes of undoubted assistance in these cases.

Instances are mentioned in which the growth has been coughed out, or disappeared either spontaneously, or after tracheotomy, or in consequence of the pressure of an intubation tube.

Thyrotomy ought to be performed only in exceptional cases; it is specially contraindicated in young children, for of those under four years of age operated upon the deaths exceeded the cures. Besides, in 42 per cent. there was recurrence. In children from four to eight years cure was obtained by thyrotomy in 50 per cent., and death occurred in 13.6 per cent.

On the other hand, intralaryngeal treatment in children under four resulted in cure in 50 per cent., while death took place in 22 per cent. From four to eight years the cures amounted to 70 per cent., with 1 death in 17 patients. Over eight years there was no death, and 50 per cent. of cures.

A. B. Kelly.

Schrötter, Hermann v. — *An Uncommon Indication for Endolaryngeal Operation.* "Wiener Klinische Wochenschrift," No. 40, 1893.

PATIENT was an unmarried clerk twenty-six years old, who had suffered for years from difficulty in breathing, especially on exertion. He had also a high-pitched voice. Laryngoscopic examination showed a smooth

tumour about the size of a hazel-nut, with a broad base springing from the left aryepiglottidean fold and the region of the left arytenoid, so that only the anterior third of the vocal cords can be seen. While the right aryepiglottidean fold shows no change, the anterior part of the left is attenuated with a thin edge and passes into the growth, which lies under the level of the laryngeal entrance; its mucous membrane is moist and pale, like that over the right arytenoid. It has the appearance as if the posterior part of the left aryepiglottidean fold, with Wrisberg's cartilage, and especially the mucous membrane over Santorini's and the arytenoid cartilage, were fallen inwards and downwards into the laryngeal lumen, and, in addition, as if a marked projection from the posterior surface of the left arytenoid reached towards the pharynx, and a ridge of soft, tense, curved mucous membrane from the interarytenoid sinus was drawn on to the middle part of the tumour. It was further observed that the growth was drawn inwards with a trembling movement by forced inspiration, and on phonation was forced laterally towards the left and its inner part slightly upwards by the inward movement of the right normally situated arytenoid. While the tumour obtained a passive change in position in this way by the movements of the healthy side, it appeared as if a hard structure was moved in its substance under the mucous membrane. The left side of the larynx remained immovable on phonation and inspiration.

The appearance described was diagnosed as left recurrent paralysis, and the tumour was thought to be due to a secondary change of position of Santorini's and the arytenoid cartilage and the aryepiglottidean fold. The history pointed to tubercular disease of a gland having caused injury to the recurrent nerve. The inward inclination of the arytenoid and the posterior part of the aryepiglottidean fold, frequently observed in one-sided recurrent paralysis which is caused by relaxation and atony of the ligamentous apparatus due to loss of muscular action, was extremely well marked in this case, where the paralysis had lasted for twenty years.

Removal was done with an electric snare under cocaine anæsthesia. Difficulty in breathing immediately disappeared. The snare had divided the syndesmosis between the arytenoid and Santorini's cartilage, and the latter with its covering of mucous membrane was removed. Hæmorrhage immediately after for two to three hours was hardly worth mentioning. The dyspnoea, unusual in the clinical symptoms of recurrent paralysis, dominated the appearances, and was satisfactorily removed by operation.

Guild.

N. v. Schrötter.—*Case of Laryngocele Interna.* "K. K. Gesellsch. d. Aerzte in Wien. *fau.*," No. 21, 1898.

DEMONSTRATION of a child with laryngocele interna on the left side of the larynx; during the expirium there is a tumour appearing similar to a cystic tumour caused through the inflated chorda vocal spur.

R. Sachs.

Stamm, Dr. C.—*On Congenital Laryngeal Stridor.* "Münchener Medicinische Wochenschrift," No. 38.

THE author refers to the literature on this subject, and describes the following case: Female child, five weeks old, healthy, apart from difficulty in breathing, which commenced after birth. Inspiration is accompanied by a peculiar stridor, expiration is free, respirations

30 per minute; although there is marked indrawing of the thorax, there is only slight, if any, cyanosis. Voice is loud, on crying dyspnoea is less. Pharynx and larynx, so far as visible, are normal. Over the upper third of the sternum there is considerable dullness, which might be caused by an enlarged thymus, but no effect is produced on the stridor by pressure here, or by holding the head in different positions. There is no engorgement of the vessels in the neck. The stridor persists in sleep and suckling. Phosphates combined with cod-liver oil were given; after two weeks marked improvement; in six weeks respiration was free.

The following points distinguish this affection from laryngismus. Congenital stridor begins immediately after birth, laryngismus with dentition; in the first there are no symptoms of rickets or tetany. Laryngismus occurs with more or less severe paroxysms, with cyanosis and convulsions; congenital stridor persists for weeks or months without cyanosis. Cessation of respiration does not occur in laryngeal stridor, and the stridor is less on crying, and is not affected by sleep.

As regards the etiology, although in this case there was dullness over the upper third of the sternum, the thymus could not be palpated in the jugular fossa; there was no obstruction to the blood or lymph circulation; pressure on the dull area or different positions of the head were without influence. He ascribes the condition to a central functional disturbance, a congenital arrest of development of certain centres of co-ordination, probably in the region of the calamus scriptorius, which, according to the researches of Semon and Horsley, is the centre for involuntary laryngeal movements. He also considers that the similar but transient stridor observed in children after chloroform is in favour of this view. He has also seen similar symptoms caused in an infant which fell on its head owing to a precipitate labour. *Guild.*

Tilley, H.—*Two Cases of Malignant Disease of the Vocal Cords: Thyrochondrotomy; Non-recurrence in One Case after Two Years.* "Brit. Med. Journ.," October 22, 1898.

In the first case the patient, a man, aged sixty-five, consulted the author on account of hoarseness of from twelve to fourteen months' duration. On examination, the right vocal cord was found thickened, ulcerated, and immobile on phonation. There were no enlarged glands in the neck. The left cord and both vocal processes were normal. The diagnosis made was "epithelioma of the right cord." Operation was advised and was performed, a preliminary tracheotomy (low) being performed first of all. The thyroid cartilage was divided in the middle line, and also the upper three rings of the trachea. The diseased cord was in this way readily accessible. The mucosa was rendered as anæmic as possible by swabbing with a 10 per cent. solution of cocaine. The cord and adjacent mucous membrane, the right vocal process, and the right arytenoid cartilage, were at once removed. The interior of the larynx was now painted with Whitehead's solution. The patient made a good recovery, and is reported by the author as in all respects well and apparently cured two years after the operation.

The second case was that of a man, aged forty-nine, who applied at hospital complaining of hoarseness of two months' duration. Upon laryngoscopic examination, a whitish-gray nodular thickening, occupying the anterior fourth of the left cord, was seen. At its junction with the cord posteriorly, the latter was seen to be distinctly congested, and in marked contrast to the colour of the opposite cord. The affected

cord was almost completely immobile. A small portion of the growth was removed, and, under the microscope, was seen to be epitheliomatous in nature. Palpation of the larynx with the finger revealed the fact that the growth was hard and immobile. Operation was performed, as in the case previously described, and ended in rapid recovery.

The author remarks upon the necessity of a thorough laryngoscopic examination being made in all cases in which hoarseness persists, as this symptom may be the one and only symptom for a considerable period in cases of serious organic disease of the vocal apparatus.

W. Milligan.

Ucke.—*Demonstration of the Whooping-cough Bacillus.* "St. Petersburg. Med. Woch.," No. 7, 1898.

Boy, ten years old; four years ago had tussis convulsiva; one year ago scarlet fever. Now, very frequent attacks of coughing. In the sputum was found the same bacillus, which already Czaplewski, Neusel, and Kuplik had described as the characteristic bacillus of the tussis convulsiva.

R. Sachs.

Weinberger.—*On Therapia of Tussis Convulsiva.* "Wien. Klin. Rundsch.," No. 8, 1898.

THE author is a physician in Piotyàn, a watering-place in Hungaria. His four children had whooping-cough; as none of known remedies seemed to be useful, he tried on the children inhalations of the thermal waters in Piotyàn. The author maintains the children were cured through these inhalations, and recommends the Piotyàn water in cases of tussis convulsiva.

R. Sachs.

E A R.

Barrago-Ciarella.—*A Symptom of Endomastoiditis with Empyema.* "Bolletino delle Malattie dell' Orecchio della Gola e del Naso," August-September, 1898.

THE author points out the great difficulty in the positive diagnosis of empyema of the mastoid in the absence of general and local symptoms. It was this absence of symptoms that drew from Schwartze the opinion that the diagnosis of empyema of the mastoid is made only after operation. In two-thirds of the cases operated on by Cozzolino in his clinic the procedure was justified by the condition disclosed by the operation, while the symptoms, both in their general and local aspects, failed to indicate surgical interference. Cozzolino in 1894 called attention to the speedy reappearance of pus in the tympanic cavity as the "unique symptom" of endomastoid suppuration, and in 1895-96 pointed out that the pus followed a definite course within the tympanum. Barrago-Ciarella now gives details of six cases in which "Cozzolino's symptom" was the only, but unfailing, indication of pus in the mastoid, and claims that it furnishes a much-needed sign which is pathognomonic of this condition. He supports his contention by his clinical observations as well as by the results of a series of experiments on the cadaver and on the macerated temporal bone. Pus from the mastoid, in the absence of other symptoms, is distinguished from that due to suppura-

tion in the attic or caries of the ossicula, not only by its rapid reappearance after the cleansing of the tympanum, but by its always flowing in a single line over the inner wall of the cavity from the postero-superior to the postero-inferior segment, passing, when the head is vertical, in front of the fenestra ovalis and fenestra rotunda. Pus from the attic flows diffusely over the remains of the tympanic membrane on its inner aspect. In the case of caries of the ossicula the amount of pus is so small and reappears so slowly that its source is readily distinguished.

James Donelan.

Blau, Louis (Berlin). — *The Diseases of the Ear due to Measles and Influenza*. "Klinische Vorträge aus dem Gebiete der Otologie und Pharyngo-Rhinologie." Published by Gustav Fischer: Jena.

THIS number of the "Klinische Vorträge" extends to fifty-eight pages. Thirty-three pages are devoted to affections of the ear caused by measles. Some interesting tables compiled from the archives of otology on the relative frequency of measles and scarlet fever as factors in the causation of ear disease are given. The various lesions due to measles are divided into groups, and each receives full consideration as regards their pathology and treatment. The description of ear conditions due to influenza occupies the rest of the work, and gives a very complete summary of our present knowledge. A literary index of eight pages gives a full reference to the published works on the subject. *Guild*.

Cheatle, A. — *Operative Interference on the Drum and Ossicles in Chronic Middle-Ear Suppuration*. "Practitioner," October, 1898.

IN this interesting and instructive communication the author has collected the views of a number of well-known aural surgeons upon the question of the value of excision of the ossicula auditus in chronic suppurative middle-ear disease. The opinions expressed appear to be fairly unanimous in favour of excising ossicles when they are found to be diseased, and also in cases where their removal would appear to favour free drainage. Unfortunately, in the space of a brief abstract it is not possible to succinctly state the views of each individual author, and those who are interested in the subject should consult Mr. Cheatle's admirably written article. In his summary he deals with the question under two main headings: (1) Those cases in which operation is undertaken to remove the cause of the discharge, and (2) those cases in which operation is undertaken to improve the hearing after the discharge has ceased.

In discussing the question in relation to those cases falling under the first heading, it is assumed as a matter of course that all ordinary treatment has been tried. The remaining cases, those in which ordinary treatment has been tried, and in which there are no signs or symptoms of extension, may be divided into three groups, according to the position of the perforation:

- (1) In Shrapnell's membrane.
- (2) In the postero-superior quadrant of the drum.
- (3) In some other part of the drum.

Those cases in which an attempt is to be made to improve the hearing after the discharge has ceased may be classified as follows:

- (1) Solution of ossicular continuity.
- (2) Adhesions.
- (3) Flaccid cicatrices.
- (4) Retained epithelial deposits behind the drum. *W. Milligan*.

Halasz, Heinrich. — *Nasal and Aural uses of Hydrogen Peroxide.* "Wiener Klinische Rundschau," No. 42, 1898.

THIS paper is intended to direct attention to the advantages of peroxide of hydrogen as an antiseptic and styptic in nasal and aural treatment. It is used in solutions varying in strength from 3 to 12 per cent. The author has had favourable results in both acute and chronic middle-ear suppuration. It softens and allows the easy removal of inspissated pus and collections of epithelium. Its styptic properties are of great value where hæmorrhage is excessive in the removal of polypi from the tympanic cavity; by its use a bloodless field is produced in a few minutes. It is of similar service in removal of nasal polypi, or operations on the turbinates. It can be poured into the ear; in the nose it is better applied by means of cotton-wool twisted on a probe. It can be used in this way without danger, and produces no local irritation.

Guild.

Kellat.—*Demonstration of Different Preparations.* "Klin. d. St. Petersb. Aerzte Dez.," No. 23, 1897.

(1) SEROUS liquid dripping from the ear in one case of otitis media ensudativa; the secretion only left off after the operation for adenoids.

(2) Fibrous polypus—the size of a plum—on the right side of the cavum pharyngo-nasale; operated on by the snare through the mouth.

(3) Small polypus of the membrana tympani; no perforation.

(4) Cholesteatoma of the middle ear (very rare in Petersburg).

Lindt, W. jun.—*Case of Sinus Phlebitis after Cholesteatoma of the Middle Ear.* "Corresp. Bl. f. Schwiez. Aerzte," No. 13, 1898.

Boy, aged four years; otorrhœa since three years. Symptoms of sinus phlebitis and hemingitis. Radical operation. Cured seven weeks after operation.

R. Sachs.

Muller, Richard.—*The Diagnosis of Traumatic Affections of the Inner Ear.* "Deutsche Medicinische Wochenschrift," No. 31, 1898.

THE author has seen thirty cases of a chronic nature, where symptoms referable to the nervous apparatus were produced by traumatism; excluded from the series are cases with injuries of the middle or external ear. In about 50 per cent. he found chronic hyperæmia in the depths of the external meatus and tympanic membrane, or a condition which depended on the previous existence of chronic hyperæmia, viz., opacity and relaxation of the tympanic membrane, with absence or increase or irregularity of the light reflex injection of single vessels, especially in the upper periphery and around the long process of the malleus, frequently spreading on to the tympanic membrane, and a condition of chronic thickening of the tympanic membrane, which is to be recognised by the defective clearness of the hammer of the malleus and short process due to the slight transparency of the tympanic membrane, or to its being deeply imbedded in its thickened substance. The appearance is ascribed partly to vaso-motor paralysis and partly to numerical and structural increase of the small vessels.

Guild.

Politzer.—*Treatment of Diseases of the Ear through the Meatus Entera (with demonstrations).* "K. K. Gesellsch. d. Aerzte in Wien. fau.," No. 14, 1898.

DEMONSTRATION of different apparatus which the author uses for aspiration of the air in the external meatus (Siegle, Delstauche, etc.).

The author highly recommends aspiration in cases of otitis media exsudativa, tinnitus aurium, menière, sclerosis in its beginning, and tedium.

R. Sachs.

Pyncheon, E.—*The Technique of Tympanic Inflation.* "Laryngoscope," November, 1898.

THE philosophy of tympanic inflation is to accomplish one or more of the following objects :

- (1) To secure ventilation of the tympanum.
- (2) To remove abnormal secretions or discharges.
- (3) To restore the normal air-pressure in the tympanum.
- (4) To correct the engorgement of vessels due to rarefaction.
- (5) To promote the absorption of inflammatory products.
- (6) To push out the abnormally retracted drum-head.
- (7) To cause massage of the ossicles.

The conclusions the author arrives at are that Politzerization is the preferable method

(1) In non-inflammatory conditions wherein the tube is sufficiently patent.

(2) In the treatment of children.

(3) When nasal deformities render the use of the catheter difficult.

The catheter is required

(1) When Politzerization is not successfully accomplished.

(2) For purposes of diagnosis.

(3) When it is important that only one ear should be inflated.

(4) When using the continuous air-current.

The continuous air-current is preferable

(1) When tubal catarrh is pronounced.

(2) When Politzerization produces discomfort.

(3) In acute inflammatory conditions.

The intermitting air-current, according to the author, is of particular value as a means of causing passive motion whenever there is a diminished ossicular mobility, and should be as strong and rapid as can comfortably be borne by the patient.

W. Milligan.

Tauzer, B.—*Secondary Abscess in Inflammations of the Middle Ear.* "Wien. Klin. Rundsch.," No. 12, 1898.

THE author reports on three cases of secondary abscesses after otitis media suppurativa acuta, and one after otitis media suppurativa chronica after exacerbation of the inflammation. In the first three cases the reason was the same, acute caries of the bone after acute inflammation of the cavum tympani. In fact, secondary abscesses are mostly found in cases of acute suppuration; in cases of chronic suppuration only after an acute exacerbation of the illness. Three patients cured, one died.

R. Sachs.

Tilley, H.—*Abscess of Temporo-Sphenoidal Lobe: Operation, Recovery, Remarks.* "Laryngoscope," November, 1898.

THE patient, a girl, nine years old, had had a discharge from the left ear for four years. When aged six the discharge ceased, violent headache supervened, and the patient was admitted to hospital, where a mastoid operation was performed, with relief to all her symptoms.

The discharge from the meatus, however, never entirely ceased, and for some time before seeing the author she had suffered from severe earache. The discharge having suddenly stopped, the patient was

admitted to hospital looking very ill, with both pupils widely dilated, but with no optic neuritis. The temperature was 98.6° F.; the pulse 70. Severe headache was complained of, and the cerebation was slow. About a week afterwards, and whilst the author was examining the ear, a free flow of pus took place, green and very fœtid. The amount was such as could not possibly have come from the antrum or from the meatus alone. The diagnosis made was that a cerebral abscess existed, which was discharging through the meatus. The patient was accordingly put under chloroform, the mastoid process opened up, and found full of granulation tissue and pus. The roof of the antrum was found eroded, and composed of soft granulations. The points of a Lister's sinus forceps were passed through this tissue upwards into the substance of the brain for a distance of 1½ inches, and when dilated a free flow of pus occurred. A rubber drainage tube was now inserted into the abscess cavity, and the wound washed out. The patient ultimately made a good recovery. *W. Milligan.*

Waldvogel. — *Cerebral Complications in Otitis Media.* "Deutsche Medicinische Wochenschrift," No. 35, 1898.

In this paper the author refers to serous meningitis and hyperæmia of the meninges with cerebral œdema. He describes two cases of the latter affection.

CASE I.—Boy, aged three and a half years, had high fever and cough. On the fourth day somnolence, aphasia, cerebral vomiting, and general convulsions. On the next day bowels and urine passed unconsciously. Double otitis was diagnosed, paracentesis was done, temperature fell, but rose the next day owing to retention of pus. After the pus was evacuated it again fell. Aphasia and involuntary evacuations lasted eight days, recovery then followed rapidly.

CASE II.—Boy, aged four years, in desquamation stage of measles, high fever and cough, followed in three days by somnolence, aphasia, convulsions; ear examination negative. Membranes ruptured, in three days temperature fell, aphasia and somnolence disappeared. Perforation closed in two days, temperature rose, cerebral symptoms reappeared. After paracentesis, improvement and gradual convalescence.

In these cases slight cerebral symptoms occurred, which did not disappear with the escape of pus or fall of temperature. They point to changes in the brain and meninges. Otitis media, *i.e.*, retention of pus in the tympanic cavity, cannot alone cause cerebral symptoms. Postmortem examination has been made in cases where there were cerebral symptoms, and where, apart from pus in the ear, there were no other changes to be seen. It is impossible to tell postmortem whether slight hyperæmia and œdema were present during life. In these two cases retention of pus could not have produced the symptoms, for they did not disappear with free escape of pus; it is necessary to assume some change in the brain and its coverings of a slight and easily recovered from nature, as hyperæmia with slight exudation. It is much more difficult to differentiate between this and serous meningitis. Positive results on puncture would confirm the diagnosis; a negative result would not exclude.

The short duration of the cerebral symptoms may differentiate, as in serous meningitis absorption of the exudation must take some time.

Guild.

REVIEW.

Browne, Lennox.—*The Throat and Nose and their Diseases.* (London: Baillière, Tindall and Cox.)

MR. LENNOX BROWNE's first edition was published in 1878, and since then the work has gone through five editions. Under ordinary circumstances, considering the important position the book had attained as a special treatise on an important branch of surgery, the reviewer's work would have been comparatively easy, as it had long enjoyed a first place in the literature of the affections of the nose and throat. The fifth edition may be looked upon as a new work, and deserves, therefore, the most careful consideration. In the first place, speaking of the book generally, it may be said that the author has been forced, owing to the great increase of knowledge, to condense, and in some chapters, such as in aural maladies, to omit, certain parts. Notwithstanding all this, Mr. Browne has been compelled to increase the size of the work considerably. Another feature of this new edition is the addition of three collaborators. Mr. Mayo Collier has revised the portion dealing with the anatomy, histology, and physiology of the larynx. Mr. Wyatt Wingrave has contributed the parts devoted to the histo-pathology, while the chapter on nervous diseases was revised and expanded by the late Dr. James Cagney. Each writer in his special section has been called upon to give the reader a true conception of recent thought, so that the work may be thoroughly brought up to date, and the authors have been eminently successful. While, therefore, Mr. Lennox Browne has controlled the work throughout its entire length, we trace with the greatest satisfaction the assistance so ably rendered by the above-mentioned gentlemen. Recent additions to our knowledge of anatomy, physiology, histology, and last, but not least, bacteriology, have changed our ideas so much in relation to diseases of the nose, throat, and ear, that anyone acquainted with our special department can easily understand how Mr. Lennox Browne was tempted to write what is practically a comparatively new work.

To write a book upon any subject in a state of transition is always difficult, and no one acquainted with the history of our special branch of surgery can fail to see how difficult it is at present to produce anything like a complete work on diseases of the nose and throat. Notwithstanding these difficulties, the result in the present instance is the publication of a surgical treatise which is not only a great advance upon anything which has previously appeared in Mr. Browne's name, but one which will remain a standard English work ably representing modern thought. It is not to be expected, moreover, that the authors will be in accordance with every writer; on the contrary, they adhere rigidly, and Mr. Browne most of all, to personal views and experience. If, however, he does so, even those who differ with him in his views on such important chapters as diphtheria and its serum treatment, or upon such questions as the pathology of the vascular and other tissues at the base of the tongue, yet it will be seen that his criticisms of the work of others have been carefully considered, while his own views have been advanced with care, and all available proofs skilfully prepared and arranged. While devoting great attention to the scientific aspect of questions, the author has very properly placed the clinical and practical aspects prominently before the reader. Cases are referred to

in more or less detail to the number of 250, and the illustrations number over 400. Important reference is made in this work by Mr. Browne to the weakness of statistics in English works, and he has very properly paid more attention to the hospital statistics of relative frequency. His figures are drawn from no less than 68,000 patients treated by him and his colleagues at the Central London Throat, Nose, and Ear Hospital during the last ten years. As usual, a special feature of this work will be found in the sketches of clinical work prepared by Mr. Browne himself, and this author's great artistic power is so well known that little more need be said than to mention the fact. These have all been excellently reproduced, and enhance the value of the work exceedingly.

Another extremely interesting feature will be found in the microscopic illustrations, which have been drawn direct from the valuable sections prepared by Mr. Wyatt Wingrave. In the different departments authors and publishers are entitled to the highest praise for the general excellence which pervades the work. The book, however, is worthy of further consideration, and as it is impossible to do anything like justice to a work of this description in the limited space of an ordinary review, we purpose in a future number making further reference to the different sections.

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OTOLOGICAL REMARKS.

BY DR. DUNDAS GRANT, M.D., F.R.C.S.

AMONG the most interesting of the otological writings issued during the past year is the "collective study" contributed by Mr. Arthur Cheate to the columns of the *Practitioner*, on the subject of "Operative Interference on the Drum and Ossicles in Chronic Middle-Ear Suppuration." With the object of eliciting the views of the various authorities in otology with regard to the scope and advisability of carrying out the operations referred to, Mr. Cheate sent a set of questions to most of those whose opinion could be of value. He received replies from a large number, though some, owing to *laissez-faire* or a consciousness of difficulty in replying with definiteness where definiteness could hardly be attained, seem to have reserved their judgment. Naturally a general consensus was hardly to be expected, but Mr. Cheate, in the "conclusions" derived from a consideration of the views expressed, arrives at a very reasonable average representation of them, and gives what must be fairly admitted to be the best "appreciation" of intratympanic operations at our disposal. He groups the operations according as they are undertaken to remove the cause of the discharge or to improve the hearing after the discharge has ceased.

For the removal of the cause of the discharge, operation is chiefly called for when this issues from a perforation in Shrapnell's membrane or one in the postero-superior quadrant of the drum, and does not subside under non-operative treatment. Persistence of attic suppuration is attributed to a variety of causes, "the chief being caries of the head of the malleus, body of the incus, or both ;

caries of some part of the attic walls; collections of cholesteatoma, inspissated pus, or granulation tissue." Mr. Cheatle speaks very highly of the removal of the outer wall of the attic—that ideal operation which is sometimes spontaneously brought about by the action of the disease itself. The removal of the ossicles and remains of the membrane finds favour with most of the otologists whose opinion was asked, when the ossicles, on account of carious disease, or because they obstruct the outflow of pus and detritus, are instrumental in fostering the continuance of the discharge.

As regards the deafness resulting from exhausted suppurative inflammation of the middle ear, it is usually due to solution of ossicular continuity, adhesions, flaccid cicatrices, or retained epithelial deposits, etc., behind the drum. Various slight procedures, such as the severance of adhesions, and others which we need not specify, having been tried and found wanting, the removal of the ossicles and remnant of the membrane is generally approved of with certain reservations. According to the results of the inquiry, "operative interference is contra-indicated if the bone-conduction is not good, and, further, if only one ear is deaf, unless, indeed, the patient's occupation or pleasure demands bilateral hearing." On these points we shall make a few comments below. The great question, in any case, is whether the drum and ossicles have lost their conducting power, and to decide this Mr. Cheatle recommends stroking the drum very gently with a fine probe or camel's hair brush. If the function is abolished, the patient will feel but not hear it, or the noise produced will be very much less than it should be.

Sir William Dalby's replies to Mr. Cheatle's queries differ from those accorded by the majority of otologists, both British and foreign. He expresses himself as follows: That "the removal of the ossicles becomes merely a detail in some of the necessarily grave operations for specially grave cases; that their removal cannot, I think, usefully be discussed apart from those operations which occasionally are required to save life." This would seem to indicate that Sir William did not recognise these operations as of any value, except as incidents in (as we presume him to mean) the radical mastoid operation. This is surely a very limited view of the matter, leaving out of account, as it does, the twofold advantages aimed at and attained in many cases. The first of these is the cessation of discharge, and with it frequently of the disease, which is likely to lead to grave conditions and the call for the necessarily grave operations. The second is the improvement in hearing which ossiculectomy is often capable of bringing about without any necessarily grave operation whatever, always assuming that a

reasonable amount of dexterity is at the operator's disposal. We trust that, as our leading English otologist, he will not without powerful cause use his great influence to discourage his junior *confères* from practising the operations which are most comparable to the triumphs of the ophthalmologist, and which, as Mr. Cheatle's replies show, are now very generally allowed to be most important advances in our specialty.

Without wishing to advocate the reckless performance of ossiculectomy in all sorts of cases, we venture to suggest that the contra-indications laid down as the result of Mr. Cheatle's inquiry, though as a rule prohibitive, are not of absolutely universal application. First, as regards the co-existence of diminished bone-conduction, we hold that even in presence of this sign the operation need not necessarily be withheld. Let us suppose a case in which a patient has only 10 per cent. of hearing-power, and has therefore lost 90 per cent., of which 30 per cent. is due to a defect in the auditory nerve, 30 to loss of the normal conducting-power of the tympanic ossicles, and 30 (not an excessive amount) to the obstacle offered by the fixed and useless ossicles. By removing the latter we restore 30 per cent., leaving the patient with 40 instead of 10. Even if the nerve is a poor one, perhaps all the more because it is such, no effort should be spared to make the conducting apparatus as useful to it as possible. In point of fact, we have put this to the test, and in one case at least effected a degree of improvement which enabled a teacher in one of our large Universities to carry on the catechetical instruction of his class, which he was on the point of resigning. Under non-operative treatment his case appeared hopeless, but the removal of the ossicles, and subsequent application of the artificial drum, enabled him to continue his profession in spite of diminished bone-conduction.

In the next place, as to the withholding of operation when the opposite ear is normal, the rule is a good one; but with increased experience and improved technique we venture to think it will admit of more frequent infringement than is at present allowable. It will be generally conceded that in some way or other a diseased ear often exercises an injurious influence on the opposite one, inducing a form of "sympathetic nerve-deafness," and there are many instances in which operation on the diseased ear has led to an improvement in the hearing of the opposite one after this sympathetic nerve-deafness has set in. As long as the opposite ear is normal, operation may be postponed, but as soon as it shows signs of diminished functional capacity the propriety of operating on the previously diseased one calls for urgent consideration.

A counter-indication to which Mr. Cheatle draws less attention

is one on which Professor Politzer lays considerable stress, namely, that ossiculectomy should not be performed for the improvement of the hearing-power in an ear by which whispered speech can be heard at the distance of about 1 metre. Such a degree of hearing may be generally accepted as indicating that the tympanic apparatus, as it stands, is still of some functional value, and the chances of improvement beyond this degree doubtful. No doubt this rule is one which common-sense would dictate, but common-sense is occasionally outstripped by operative zeal.

We have personally practised this operation only in cases where the indications were specially well pronounced, and even in those in which the technique was imperfect (these occur with every operator, and not alone in the earliest efforts) the result, as regards discharge, headache, or hearing was almost invariably satisfactory. We are quite ready to admit that with a freer adoption of the operation and a less fastidious care in the selection of cases a percentage of negative results would be inevitable. On the other hand, we are certain that our hesitation in removing the ossicles has—especially in the post-suppurative cases—left many without the benefit they might otherwise have received.

While strongly convinced, for the present at least, that little is to be expected from intratympanic operative interference in the typical chronic dry catarrh of the sclerotic form, we feel that the prospects are totally different in the post-suppurative conditions, especially if the internal ear is fairly intact, as indicated by the preservation of the bone-conduction. Holding this opinion, we go the length of saying that the aurist who omits to practise this method of treatment is much on a par with the oculist who abjures the extraction of cataract.

In this particular branch of aural surgery, we in this country have been behindhand as compared with our *confrères* on the Continent and in America. This may be due to our national conservatism, or to the influence of our respected *magistri*. In any case, it is to be hoped that greater attention will be directed to it, and that valuable results will be recorded at the International Congress of Otology which meets in London in the August of the present year. Mr. Cheatle deserves the greatest credit for his labour in bringing the question so vividly before the profession, and the writer of the present remarks looks forward to witnessing the fulfilment of the prophecy he ventured to utter in a lecture on the Treatment of Deafness arising from the Residua of Suppurative Inflammation of the Middle Ear, that the operative treatment of these conditions would be "a happy hunting-ground" for the progressive otologist.

TABLES

SHOWING THE SIGNS OF

"LATENT" SUPPURATION IN THE VARIOUS SINUSES OF THE NOSE,
ILLUSTRATING DR. DUNDAS GRANT'S LECTURES ON THE DISEASES
OF THE ACCESSORY SINUSES OF THE NOSE,

*Delivered at the Central London Throat and Ear Hospital
on June 9, 16, 23, and 30, 1897.*

THE tables here appended may be found useful to those who are engaged in the study or teaching of rhinology, and are founded mainly on the extremely lucid analysis of the subject as dealt with by Dr. Lermoyez in his work on the "Treatment of Diseases of the Nose," published in 1896, and reviewed by the present writer (JOURNAL OF LARYNGOLOGY, vol. xii., p. 105). The extreme shortness of the headings adapts them for reproduction on charts for hanging on the wall, as used by the author to illustrate his lectures.

SIGNS OF PURULENT SINUSITIS

SITE OF SINUSAL SUPPURATION.

PRESUMPTIVE :

- (a) Unilateral pus.
- (b) Pain relieved by evacuation.
- (c) Subjective factor.
- (d) Polypi.

PROBABLE :

- (a) Pus at orifice influenced by attitude.
- (b) Opacity on transillumination.

CERTAIN :

- (a) Irrigation.
- (b) Puncture and aspiration.
- (c) Puncture and irrigation.
- (d) Puncture and transsufflation.

PUS IN MIDDLE MEATUS :

- Anterior group :
Antrum.
- Anterior ethmoidal cells.
- Frontal sinus.

PUS IN OLFACTORY SLIT :

- Posterior group :
Sphenoidal sinus.
- Posterior ethmoidal cells.

ANTERIOR GROUP.

SIGNS OF SUPPURATION OF ANTRUM.

SIGNS OF SUPPURATION OF FRONTAL SINUSES.

PRESUMPTIVE :

- (a) Unilateral pus.
- (b) Intermittence.
- (c) Infra-orbital pain.
- (d) Subjective factor.
- (e) Upper molar caries.
- (f) Pus in middle meatus.
- (g) Mucous polypi.
- (h) Lateral swelling.

PROBABLE :

- (a) Return on bending forwards.
- (b) Opacity on transillumination.

CERTAIN :

- (a) Puncture and transsufflation.
- (b) Puncture and irrigation.
- (c) Puncture and aspiration :
 - (1) Inferior meatus.
 - (2) Alveolus.
 - (3) Canine fossa.
 - (4) Middle meatus.
- (d) Catheterization, inflation, irrigation.

PRESUMPTIVE :

- (a) Continuity of discharge.
- (b) Seat of pain.
 - (1) Spontaneous.
 - (2) On pressure.

PROBABLE :

- (a) No return on bending forwards.
- (b) Return after antral irrigation.
- (c) Pus on tampon in hiatus.
- (d) Transillumination.
 - Antrum—negative.
 - Frontal—positive.

CERTAIN :

- (a) Catheter.
 - Inflation.
 - Irrigation.
- (b) Operation.

SIGNS OF SUPPURATION OF ANTERIOR ETHMOIDAL CELLS.

PRESUMPTIVE :

- Pus continuous.
- Pain.
 - Spontaneous supra-orbital.
 - On pressing lachrymal bone.
- Asthenopia.
- Mental depression.

PROBABLE :

- Opacity on transillumination.
- Lesions in middle meatus.
 - Anterior rhinoscopy — pus, granulations.
- Probing—pus, blood, bare bone.

CERTAIN :

- Puncture of bulla.
- Elimination of antrum.
 - (Exploratory irrigation.)

POSTERIOR GROUP.

SIGNS OF SUPPURATION OF SPHENOIDAL SINUS.

PRESUMPTIVE :

- (a) Pain.
- (b) Ocular disturbance.

PROBABLE :

Pus.

- (a) Between septum and middle turbinal (ant. rhinoscopy).
- (b) On superior and middle turbinals and vault (posterior rhinoscopy).

Lesions in olfactory slit.

- (a) Bulging in depth (in acute cases).
- (b) Mucous polypi.

CERTAIN :

- (a) Pus from ostium seen.
- (b) Exploratory catheterization.
- (c) Exploratory puncture.

SIGNS OF SUPPURATION OF POSTERIOR ETHMOIDAL CELLS.

PRESUMPTIVE :

- Same as sphenoidal.

PROBABLE :

- Polypoid middle turbinal.

CERTAIN :

- Return of pus after irrigation of sphenoid.
- Bare bone behind middle turbinal.

TREATMENT OF LARYNGEAL PHTHISIS.

*Abstract of Paper read at West London Medico-Chirurgical Society,
January 7, 1899.*

BY R. LAKE, F.R.C.S.

ALTHOUGH general treatment was useless, one must not lose sight of the enormous aid one derives from increasing the powers of resistance in the body, and by increasing the numbers and energy of phagocytes and white corpuscles.

Local measures can be divided into surgical and non-surgical. The former consist in removal of diseased portions, cleaning up of ulcers, etc., by means of curettes, and depletion of œdematous tissues by puncture. Non-surgical consist of insufflation of powders, painting on or rubbing in of solutions, the injection into the tissues

of hypodermic remedies, and the injection into the trachea of oily solutions, etc.

In using any "paint" to the larynx, a brush should *never* be employed, but always a cotton-wool mop, for two reasons: cleanliness and efficiency. Brisk and firm friction to be used and continued for an appreciable time. Use all solutions as strong as possible. Injections should be of a temperature of about 80°, and the patient must be instructed to inhale deeply, and to hold his breath a short time *immediately* after the injection is given; above all, not to cough.

One may classify the different conditions which are found in the larynx into six clinical heads, entirely omitting those which are merely due to catarrhal states, and which are in nowise specific, which some observers try to include, and they are the cases particularly which yield brilliant statistics: (1) A granular condition of the vocal cords. (2) Superficial excoriation or ulceration. (3) Oedema. (4) Oedema and superficial ulceration. (5) Deep ulceration. (6) Mixed oedema and deep ulceration. All these conditions require modifications of treatment to obtain the best results.

(1 and 2) In the two first classes of cases no method of treatment has been so efficacious as intratracheal injection.

(3 and 4) In the cases where swelling or oedema alone was present, or where the ulceration, if there was any, was limited in extent, the topical application of drugs was confined to paints. Treatment of this variety requires surgical assistance in order to obtain the best results.

If scarification is not enough, one resorts to cutting forceps, and freely removes the infected tissues. The effect of the operation is that the tissues drain out their superfluous moisture, and a return to the normal is encouraged. The removal of relatively so small a part cannot directly cure; too much tubercular tissue remains. Free drainage, however, must materially assist in the cure.

Formic aldehyde or lactic acid should be used after every intralaryngeal operation on a tubercular subject, no matter how small the operation is.

(5 and 6) When the larynx is extensively ulcerated the patient is usually very ill, and will not tolerate even frictions of lactic acid, much less more active reagents.

In such cases insufflations of iodoform and orthoform will be found to have a wonderfully soothing, and often partly curative, effect. As the patients become more tolerant, treat the larynx with frictions of formic aldehyde.

In the treatment of dysphagia, if ulceration is present, we have

no drug equal to orthoform; punching out infected tissue from the epiglottis, etc., is most effective, but not to be advocated in hopeless cases, now that we have a non-toxic anodyne in orthoform, as it helps to discredit surgical aid.

The use of injections was based on the theory that superficial ulcers are due, not to tubercle bacilli, but to cocci.

The injections had one feature in common, viz.: the antiseptic used had no supposed specific anti-tubercular power. He was of opinion that an emulsion is more effective than a simple solution, and now advises naphthalene treated with an emulsifying agent, lanoline 3 per cent.

The chief advantages of emulsions are:

They are less irritating, and patients are not conscious of the hot burning feeling they have when solutions are used.

They do not leave so unpleasant a taste in the mouth, and consequently do not derange the appetite so often.

In the mixed cases where swelling was combined with ulceration, topical applications and frictions of formic aldehyde or lactic acid were used, in addition to the injections. These were either on alternate days, or, as has been our later custom, the two have been used on the same day. In cases of pure or almost pure swelling and œdema, he had found the injections of only very slight service.

The following appears to be the *modus operandi* of intra-tracheal injections, which have been in use by him at the North London Consumptive Hospital for three years. The contained antiseptic is of use: first, to sterilize the sputum on its way to and through the larynx; secondly, in surrounding the masses of sputum with an envelope of antiseptic oil, thus assisting it to pass over the already injured parts without inflicting further damage, and without causing irritation; thirdly, the larynx and trachea are provided with a protecting glaze, and at the same time concussion and bruising are diminished by the greater ease of expectoration; fourthly, when the cough is harsh, and there is but little accompanying secretion, the injections are distinctly sedative in their action. By thus allaying irritation the inflamed parts are kept at rest. This is as important a factor in this disease as any other. For like reasons one should prohibit much conversation.

Prognosis.—This is good in those cases where the lesion consists of superficial ulcers, especially when situated on the vocal cords, or when a “granular corditis” is present.

When there is œdematous swelling only, the prognosis is fairly

good, this condition being more influenced by the condition of the patient's lungs than the former. It is worst in those instances where the swelling is accompanied by ulceration.

The prognosis is almost universally bad in extensive and bilateral ulceration. This is not improbably due to the fact that the agents in destruction of the lungs are pathogenic cocci, which are the active agents in superficial ulceration in the larynx. As the lungs are also breaking down rapidly, one has to deal with tissues devoid of any recuperative power with which to second our endeavours.

When the writer's list of cases is long enough, he hopes to publish a statistical table; but 200 cases is too small to obtain even an approximate result.

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary Meeting, December 2, 1898.

F. DE HAVILLAND HALL, M.D., *Vice-President, in the chair.*

Report of the Morbid Growths Committee. Slide L.S.L., 16. Section of growth removed from a female patient of Dr. BARCLAY BARON'S. Shown at meeting November 4, 1898.

The committee report that the specimen submitted to them contains a mass of large polyhedral embryonic cells, which some would term an alveolar sarcoma, others spheroidal-celled carcinoma. Some of these cells are in an active stage of proliferation. The arrangement of the cells tends to show some trace of alveolation, and it is noticeable that there is an intra-cellular fibrous structure. In deeper portions of the section there are evidences of inflammatory change, some recent and some of longer standing. Blood spaces are seen without definite walls. In our opinion the growth belongs to a class which behaves in many respects like sarcoma, but showing slight and local malignancy.

Slide L.S.L., 17.—Sections of glands under sterno-mastoid, together with portion of internal jugular vein, removed from patient. Shown by Dr. BOND, May 13, 1896, p. 86; November 11, 1896, p. 4. Report on section, January 13, 1897, p. 40. Case, "Sarcoma of Nose."

The committee regret that, owing to some mistake in the con-

stitution of the fluid in which the growth was originally placed, the mass had almost decomposed before they received it, and only one small portion was at all suitable for sections. This portion was undoubtedly of malignant nature, but whether it was a spheroidal-celled carcinoma or an alveolar sarcoma the condition of the section rendered it impossible to decide.

Wall Charts for Teaching Signs of Suppuration in the Nasal Sinuses. Shown by Dr. DUNDAS GRANT.

These charts were drawn up by Dr. Grant to illustrate his lectures in June, 1898, and were founded mainly, but with various modifications, on the classifications of signs as *presumptive*, *probable*, and *certain*, given by Lermoyez in his work on the treatment of diseases of the nose and sinuses of the face.

Section of Cyst removed from the Naso-pharynx. Shown by Mr. ARTHUR CHEATLE.

A man, aged nineteen, came to the Royal Ear Hospital complaining of nasal obstruction. Besides some turbinal hypertrophy and a spur in the nose, a smooth pink mass, the size of half a walnut, was seen in the naso-pharynx immediately behind the septum, and stretching from one Rosenmüller's fossa to the other. Under chloroform it felt tense, and was ruptured with the finger-nail before removal. A microscopical section through the mass showed a large and a small cyst, each lined with columnar ciliated epithelium, with a slight amount of adenoid tissue outside on the cut surface.

Preparations of Hypertrophied Tonsils.

Mr. WYATT WINGRAVE exhibited sections of enlarged tonsils for inspection by the naked eye. They illustrated the conditions of simple hypertrophy, unattended with any inflammatory changes.

The points of chief interest were the scantiness of the connective-tissue elements, the depth of the lacunæ, which reached to the "bed" of the tonsil, and the fact that one aperture was common to several lacunæ.

The tonsils before cutting had been soaked in collodion, which method binds the tissues together and prevents the lymph follicles falling out.

Sections of Lupus of Larynx. Shown by Mr. WYATT WINGRAVE.

The sections were stained by the Ehrlich triple Biondi process, a method which has the great advantage of differentiating the three most prominent histological elements—viz., the small-cell

tissue, the epithelial cells, and the sclerotic bands. Neither in this nor in other instances had he been able to demonstrate a specific bacillus.

Apart from the question of the bacillus, he considered that histological differences between tubercle and lupus were to be explained by the respective rates of inflammatory changes.

Microscopic Sections of Papilloma of the Larynx. Shown by Mr. WYATT WINGRAVE.

From a case of Dr. Dundas Grant's. It was of the simple stratified squamous variety.

Microscopic Sections of Rhino-scleroma. Shown by Mr. WYATT WINGRAVE.

From a case of Dr. Dundas Grant's.

Specimen of Pachydermia Laryngis. Shown by Mr. LAKE.

The larynx shown was removed from a patient, aged thirty-four, who had been hoarse, or, as the patient had described it, "had had a man's voice since the age of four years." His family history was good. He had suffered with phthisis for one year, but his larynx showed no traces of this.

In reply to Dr. Grant, Mr. LAKE said the hoarseness antedated the phthisis by about thirty years.

Tubercular Larynx from a Child aged Six Years. Shown by Mr. LAKE.

This was shown on account of the comparative rarity of this disease in childhood. When first seen the child had laryngeal stenosis, due to subglottic swelling; later destructive ulceration set in, and he died nine weeks later.

Report on a Specimen of Membrane (Epiglottitis) from a Case of Membranous Laryngitis. Shown at the last meeting (November) by Mr. LAKE.

Three organisms were shown to be present in the cultivations, viz.:

(1) *Staphylococcus pyogenes albus.*

(2) A small diplococcus (morphologically identical with the gonococcus, but staining by Gram's method).

(3) A small-celled torula.

WALTER D. SEVERN.

Recurrent Nasal Tumour from Female aged Twenty-three. Shown by Mr. LAKE.

Empyema of Antrum cured by Repeated Irrigations by means of Lichtwitz's Trocar and Cannula. Shown by Dr. DUNDAS GRANT.

Mrs. M—— was seen on July 21, 1898. There was dulness on transillumination, and a free exit of fœtid pus following the use of Lichtwitz's trocar and cannula.

For nine years the patient had been subject to "colds in the head," chiefly affecting the right nostril, but the history of a fœtid discharge only dates about four weeks before her application for relief. Possibly the chronic recurring discharges were due to attacks of suppurative inflammation in the right frontal sinus, from which the antrum was secondarily "charged." Transillumination of the right frontal sinus shows less translucency than that on the left side. The signs of antral empyema, which were typical, entirely disappeared after eleven irrigations with Lichtwitz's instrument. The teeth were sound, and hence the intra-nasal treatment was adopted in place of any of the buccal methods.

Chronic Empyema of the Antrum cured by Intra-nasal Treatment (Anterior Turbinectomy—Krause's Trocar). Shown by Dr. DUNDAS GRANT.

M. A. L——, aged thirty-one, schoolmaster, seen April 22, 1898, complaining of offensive purulent nasal discharge, which had lasted continuously for six months. Antral empyema was diagnosed by means of Lichtwitz's trocar and cannula. Three carious teeth were removed, and the discharge did not return for two days. Temporary relief followed irrigation by the latter instrument. Alveolar puncture and irrigation were then instituted, and the latter carried out till June 18, at the first with temporary success, but with pain in the process, and no actual cessation of discharge. The alveolar puncture was allowed to close.

Anterior turbinectomy was then performed, and under cocaine Krause's trocar and cannula introduced; through the latter the antrum was washed out, and then insufflated with iodoform and finally iodol. Twenty-eight irrigations through the alveolus had been unsuccessful, but after twelve through the intra-nasal cannula the discharge and smell had entirely ceased.

The patient is now quite free from any symptoms of his antral disease, there is no pus on irrigation, and the dulness on transillumination has diminished.

Dr. HERBERT TILLEY thought that the great disadvantage of this treatment was that in the majority of cases the irrigation had to be done by the surgeon rather than by the patient himself—a matter of very considerable importance. The alveolar method, which was

without this disadvantage, made it most suitable for the general run of cases as the first line of treatment; for once the patient had been provided with a suitable plug, and had been shown how to use the syringe, he could carry on the treatment for himself.

In reply to Dr. Spicer, Dr. TILLEY said that he did not for a moment wish to underrate the value of the more radical operations in protracted cases, and cases where it was probable antral polypi were keeping up the discharge. He had himself found them invaluable. His contention was that, in ordinary cases associated with carious teeth, the treatment should commence by removal of the latter and insertion of a plug, removable for constant irrigation; that the lotion should be constantly changed, and not until these methods were found to fail should more radical operations be performed, one great disadvantage of which was that patients could not carry out the treatment themselves. He was surprised that Dr. Spicer had met with so few cases cured by the alveolar method.

Dr. PEGLER thought the operation of anterior turbinectomy, as performed by Dr. Grant in this case, would become a more general accessory procedure in the treatment of antral disease where a Krause opening was to be made. He had noticed that the inferior turbinal tended to become chronically inflamed and swollen in the presence of much purulent discharge, and in its turn aggravated matters by hindering drainage and keeping up sepsis, besides rendering the Krause's opening more difficult of access. Subsequent treatment by irrigation with a catheter through this opening was also much facilitated by an anterior turbinectomy.

In reply to Dr. Tilley, Dr. PEGLER said he could show cases in which the habitual passage of a vulcanite catheter through the Krause opening, during home treatment by the patient, had been carried out, after a little practice, without any great difficulty.

Dr. SCANES SPICER felt it his duty to join issue with Dr. Tilley on two points. Firstly, as to the assumed difficulty of patients washing out the antrum per nares through the operative artificial ostium maxillare. With a proper bent tube, and one or two demonstrations, the patient found no difficulty in doing this within a few days of the operation. He had recently sent a case out of hospital fourteen days after radical operation; and as she was going to Bristol for a month, he asked her to present herself at Dr. Watson Williams' clinic, and the speaker believed that that gentleman would say there was not the slightest difficulty. In fact, since he had adopted entire nasal irrigation after operation, he had found that patients had far less difficulty and discomfort than with the tooth-socket tube irrigation. Secondly, he protested against the routine

use of tooth-socket tubes and a plate for "two months" in well-proved cases of *chronic* empyema. This doctrine was retrograde, and directly in opposition to all recent English, Continental, and American advances, and should be discountenanced by a society of specialists. Cases of cure of *chronic* empyema by tooth-socket tubes were most rare, while he had come across several cases of supposed "cures" who had gone on wearing their tubes for ten, fifteen, and more years, and were still doing so, and using irrigations one, two, or three times a day for the suppuration and smell. It therefore appeared to him better to adopt at once a radical method which was safe, rapid, and practically certain, instead of wasting time and money on a method which almost never succeeded.

Dr. ST. CLAIR THOMSON suggested that in the matter under discussion the feelings of the patient might be slightly considered, and that in his experience, when the facts of the case were put before a patient, the larger majority preferred to have the alveolar opening only whenever there was a suitable empty tooth-socket on the same side. A long history of suppuration did not necessarily mean an intractable case, for in his case, referred to by Dr. Scanes Spicer, the patient had had symptoms for seven years, and the empyema had been definitely diagnosed two years before operation was decided upon.

Dr. WATSON WILLIAMS had had a case under his care which showed the ease with which a patient could syringe out her own antrum.

Dr. GRANT, in reply, quite agreed that the convenience of the alveolar operation was such that it could never be altogether done away with. At the same time, he had seen cases in which it had done no good, and improvement only began when the alveolar opening began to close, and other methods of treatment were initiated. On principle he contended that an opening between the mouth and nose was bad physiologically, and still worse bacteriologically. He had therefore tried what could be done by intranasal treatment. He showed an instrument for enlarging the opening made with Krause's trocar, and cited a case in which such an opening had persisted. Anterior turbinectomy had at the same time been performed, and the patient could pass a Eustachian catheter into the opening.

X-Ray Photograph of a Foreign Body (Silver Tube) in the Antrum of Highmore. Shown by Mr. CHEATLE.

The patient was wearing a tube through the canine fossa for chronic antral suppuration; the top broke off, and the patient

continued to wear it. One morning on waking it had disappeared. In order to see if it was inside the antrum, Mr. Low took the photograph, which clearly showed it lying across the cavity.

Dr. DUNDAS GRANT had in one case of opening the antrum through the canine fossa found a vulcanite tube which had broken off from its plate. This had been adopted after the alveolar operation, and was supposed by the patient to have dropped out.

Dr. WATSON WILLIAMS cited a case where a peg similarly got lost in the antrum, but passed out into the nose through the ostium maxillare without operative interference.

Dr. WILLIAM HILL recorded another case where the loss of a tube in the antrum was fortunate for the patient, as it necessitated opening the front wall of the sinus, which was found to be diseased, and a radical cure was made of the case.

Spreading Ulcer of the Nose. Shown by Mr. WYATT WINGRAVE.

Charles T—, aged fifty, labourer, seen on November 14, 1898, complaining of pain over nose and stinking discharge of six weeks' duration. On examination, nostrils were full of foetid crusts, which on removal showed perforation of vomerine region of nasal septum with granulation tissue in all directions.

He gave a history of syphilitic sore thirty years ago, with falling of hair, but no other signs. Married twenty years; wife had two miscarriages, at the second and fourth pregnancies. He had usually enjoyed good health. Two months later a red patch appeared on the outside of each ala at junction of bone and cartilage. This rapidly broke down, and the ulceration spread to the cheeks and upper lip, the tip of the nose remaining free. He suffered considerable pain, and the discharge was profuse and foetid. He was treated with potassium iodide and bromide, also inunctions of mercury, with negative results.

Cultivations were taken, but no special micro-organism was found, and injections of mallein and tuberculin gave no response. He has not lost flesh to any very great extent. The temperature has sometimes been as high as 103° , but for the last six weeks has kept about normal. At the present moment the disease is not spreading as fast as it was, and the pain is but slight. He continues to take biniodide of mercury, which he has been under for the last three months. The ulceration is now much more superficial than it was, and shows a tendency to heal.

He thought that the case possessed interest from its resemblance to one which was presented to the Society by Dr. McBride in 1896,

and seen by Sir Felix Semon and Dr. Milligan, who were all in doubt as to its nature.

The cases were alike in their resistance to mercury and iodides, their negative evidence of glanders, and their clinical history. He thought at first that it might be an unusually rapid case of lupus, since the history of syphilis was decidedly equivocal, and scrapings afforded no evidence of tubercle bacilli.

Mr. SPENCER considered the case one of malignant ulceration, including under that term rodent ulcer. He would employ thorough erasion and the cautery, and later on cover healthy granulations with epidermal grafts.

Dr. LOGAN TURNER said that he had had the opportunity of constantly observing Dr. McBride's case of destruction of the nose and face which had been referred to by Mr. Wingrave. The microscope, bacteriological investigation, and specific treatment had failed to establish any diagnosis. In spite of operative interference the ulceration had extended, and death followed. Post-mortem examination revealed nothing of a definite nature. It differed from Mr. Wingrave's case in the deeper and more complete destruction both of the soft parts and of the bones. In his (Dr. Turner's) opinion the patient now shown presented rather the appearance of a case of lupus.

Mr. BOWLBY suggested that it might well be a form of rodent ulcer, in which case the term "epithelioma" should not be applied, as they were not identical diseases.

In reply, Mr. WYATT WINGRAVE said that the fragments examined afforded no evidence of epithelioma or tubercle, and that no surgical treatment had been attempted. There was no response to the active mercurial treatment, which was thorough.

Case of Syringomyelia, with Paralysis of the Right Side of the Palate and Pharynx, and of the Right Vocal Cord. Shown by Dr. HEBBERT TILLEY.

The exhibitor expressed his great indebtedness to Dr. Risien Russell for the help he had given him in the examination of the patient's nervous system.

[Dr. Russell, at the invitation of the President, described the chief nervous symptoms of the case.]

C. S—, aged fifteen years, applied to the Golden Square Hospital, complaining of "hoarseness and inability to use her hands properly."

Patient's mother had "chorea" when seventeen years of age, and her mother's grandfather was the subject of fits, and died in

an asylum. She was born at full term; labour difficult, and instrumental delivery with injury to the head resulted. Has always enjoyed fairly good health, but has always been subject to eczema of hands since quite young. Menses not established. Weakness of hands noticed first about two years ago, when she found she was unable to open her hands properly. Hoarseness seems to have existed before the latter trouble was noticed.

About two months ago she received a large burn on the hypothenar eminence of the left hand, and knew nothing of it till the blister accidentally broke. She experienced no pain as the result of the burn.

Present State (November 28, 1898).—Patient is a pale, well-nourished girl, with noisy breathing and a hoarse voice. Nystagmical jerks of both eyes are observed on lateral and upward movements; they are more marked when the eyes are directed to the right than when turned to the left, the movements of the globus being lateral, with a certain degree of rotation added.

There is complete paralysis of the right half of the palate, pharynx, and right vocal cord, as opposed to a normal movement of the same on the left side.

All the neck muscles act well, and show no evidence of atrophy. The scapular and shoulder muscles, also those of the upper arm, are intact, and all movements of the shoulder-joint and elbow are well executed. There is moderate wasting of the extensors and flexors of the forearms, with weakness of extension and flexion at the wrist, the defect being more marked in the extensors.

The fingers of both hands are in the *main en griffe* position, and there is marked atrophy of the small muscles of the hands on both sides, but more advanced in those of the left. The wasting of the thenar eminence and first interosseal space is more pronounced than elsewhere. The hand-grasps are very feeble; separation and adduction of fingers feeble; inability to extend the second and third phalanges. Adduction of thumb possible, but feeble on both sides. Opposing power of thumb almost nil.

All muscles of forearm respond to faradism, but need a stronger current to evoke contraction than do those of the upper arm. No response of palmar muscles to faradism; dorsal interossei respond slightly. On right side, in addition to the response from the dorsal interossei, there is very slight contraction of the palmar muscles. Markedly diminished reaction to galvanism is noted in the small muscles of the hands; no response in the palmar muscles (with the strength of current available, viz., one producing powerful response

from normal muscles), including those of the thenar eminence on both sides. Dorsal interossei respond K.C.C. > A.C.C.

The trunk and back muscles are practically normal, but there is a pronounced lateral curvature of the spinal column, involving the whole of the thoracic vertebræ, and with its convexity to the right.

The lower extremities, both in nutrition and function, are normal.

Tactile sensibility is everywhere preserved, but there is blunting of painful impressions on both superior extremities; the analgesia, however, is not pronounced. There is complete loss of appreciation of thermal impressions all over both superior extremities, and there also appears to be a similar defect on the back of the neck and trunk.

Thermal impressions seem to be normally perceived on the face, but there appears to be some slight defect on the neck and trunk down to the third rib on the right side, and again from the costal margin to about the level of the umbilicus; on the left side the defect appears to be more definite, and extends all the way down the neck and trunk to about the level of Poupart's ligament.

Knee-jerks are exaggerated, but no ankle-clonus can now be elicited as was possible a week ago.

Recent trophic disturbances are seen, and scars, the result of similar past affections in connection with the skin of the fingers; also some sores about the elbows, looking as if they were abrasions. Sphincters, thoracic, and abdominal organs present no clinical evidences of disease.

The PRESIDENT thought the case very interesting, as hitherto he had been unable to find any records of syringomyelia associated with laryngeal paralysis.

Mr. SPENCER pointed out that the nuclei in the lower third of the bulb, giving rise to pharyngeal and laryngeal fibres, were in this case affected, whilst the fibres arising from the upper part of the spinal cord, going to the sternomastoid and trapezius, were untouched. Doubtless in other cases both groups were affected. But the possibility of one group being alone attacked confirmed the view of a distinct origin.

Hyperostosis of Maxillary and other Bones causing Nasal Stenosis. Shown by Mr. BOWLBY.

E. P.—, aged forty-three. She has noticed difficulty in nasal breathing and pain about eighteen months. She has been deaf to some extent for nineteen years, but has not got worse lately. Now

complains chiefly of the frontal pain and difficulty of nasal respiration.

Present Condition.—There is exophthalmos, especially on the left side. The left temporal fossa is occupied by a bony growth which is continuous with an enlargement of the left malar and superior maxillary bones. The left supra-orbital ridge is thickened. Both maxillary bones show overgrowth of their nasal processes, but the nasal bones themselves are not enlarged. There is a bony growth in the floor of each nostril, covered by smooth mucous membrane, and as large as a large almond. The turbinate bones also appear enlarged; the palate bones and the alveolar processes of the maxillæ are normal; the lower jaw is normal. Pulse, 130. No tremors; occasional palpitations. Thyroid apparently normal. No definite evidence of syphilis, but has "had bad health" since marriage, has lost five out of six children, and had an "eruption on the face."

Mr. SPENCER asked Mr. Bowlby if he would try treatment by thyroid extract on purely experimental grounds; it might do some good, and probably no harm.

A Case of Paresis of the Left Side of the Larynx. Shown by Dr. WILLCOCKS.

J. T——, male, aged thirty-seven, came under observation about the middle of November. The alteration in his voice began last April, accompanied by dyspnoea and noisy inspiration. For the last six weeks the voice has been worse. Patient had a penile sore followed by a rash about six years ago, and has also been a good deal exposed to vicissitudes of weather in his occupation.

The view of the interior of the larynx is much obscured by the epiglottis, which is very pendulous and almost immobile. The left arytaenoid is much restricted in its movements on phonation, while the right side moves freely. There is no definite evidence of intra-thoracic pressure, such as aneurysm of the aorta, and there is no local evidence of disease in the larynx itself. The questions raised as to the nature of the condition were whether the partial paralysis on the left side was due to pressure on the left recurrent within the thorax (of which there is at present no definite evidence), or whether the restricted movement of the left arytaenoid depended on some local mischief, such as adhesion, ankylosis, etc.

The VICE-PRESIDENT remarked on the difficulty that such cases as those presented as to whether the immobility was due to mechanical fixation or paralysis.

Dr. LACK had examined the case very carefully, and considered

the appearances were those of recurrent paralysis, and not of mechanical fixation.

Varix or Nævus of the Posterior Faucial Pillar.

Mr. ERNEST WAGGETT showed a young man who had for a few weeks complained of pain and difficulty in swallowing.

A knot of dilated veins were to be seen under the mucous membrane of the left posterior faucial pillar, connected above with a small nævoid patch occupying the surface of the upper part of the corresponding tonsil. Attention had recently been drawn to the throat by frequent examination for throat lesions, necessitated on account of the occurrence of a suspicious sore on the penis. The symptoms complained of dated from the occasion on which the patient for the first time became acquainted with the abnormality described, and his nervous demeanour warranted the symptoms being regarded as constituting a mere mental obsession. Presumably the abnormality was of congenital origin, or at all events one of very long standing, and, until recently, not noticed. No surgical procedure seemed called for.

Mr. WAGGETT, in answer to the Chairman, said that he was unaware that any lesion could be described as a "typical varix of the posterior pillar." He had shown the case as an unusual curiosity, and considered the condition to be very unimportant intrinsically, and one merely forming the basis of a pharyngeal obsession in a nervous patient.

A Case of Functional Hoarseness in a Woman aged Thirty-seven.
Shown by Dr. HECTOR MACKENZIE.

The patient had been under observation for over six months. About the end of May she was sent up from the country to Brompton Hospital, supposed to be suffering from pulmonary and laryngeal tuberculosis. She had then been hoarse, or aphonic, for some months. She said her throat was painful, and that she had difficulty in swallowing. The history was strongly suggestive of tubercle. In June, 1897, she was said to have brought up a large quantity of blood. Her father died of phthisis when she was seven years old, and her mother died of asthma and lung disease. One was quite prepared, therefore, to find both pulmonary and laryngeal disease. On examining the larynx, however, one noticed the extreme tolerance the patient showed to examination, so that there was not the slightest difficulty in at once getting a thorough and complete view. This contrasted strongly with the great irritability usually exhibited in tuberculous cases. The movements of the larynx were irregular, and on attempted phonation the cords did not come

together, while the ventricular bands tended to overlap them. In adduction the left arytenoid persistently occupied a position slightly posterior to the right. The mucous membrane was lax, but there was no sign of swelling or ulceration, and the cords were of a normal colour. No abnormal signs were found on examination of the chest.

From the appearances, the conclusion was arrived at that the laryngeal condition was functional. The faradic current was applied to the hands, with the result that the voice became at once quite normal. The voice remained normal for some weeks. The patient was greatly relieved in her mind by the restoration of the voice, and improved considerably in general health, putting on nine pounds in weight in six weeks. There has been a tendency for the hoarseness and aphonia to recur, but the voice has always been easily restored to a normal condition by the application of the battery. Unfortunately, the patient lives at a considerable distance from London, so that treatment has been carried out at some disadvantage.

Dr. ST. CLAIR THOMSON was of opinion that the laryngitis was entirely functional. If the patient was put through certain vocal exercises with the laryngeal mirror in position, it was seen that the vocal cords were perfectly healthy and mobile, and that the ventricular bands were much hypertrophied. The patient, in fact, had developed what the Germans call "*taschenbandsprache*," and he thought that with suitable exercises she might be induced to desist from speaking with her ventricular bands, and return to the natural use of her vocal cords.

Dr. GRANT suggested that she should constantly practise inspiratory phonation, which he had found useful in a similar case.

Papilloma of the Tonsil. Shown by Mr. DE SANTI.

The patient, a girl aged nineteen, suffered occasionally from enlarged tonsils. No other trouble. When examined a papillomatous growth was discovered on the left tonsil. The tonsil and growth were removed together.

Malignant Disease of the Nose in an Old Man.

Mr. BOND showed a case on whom radical operation on the nose and two operations for removal of glands had been performed, the patient having twice previously been shown to the Society, and reports made on microscopic sections of tissues removed.

In May, 1898, the nose was clear of disease, but there was a large mass of glands on the left side of the neck the size of a hen's egg. This was cut down upon and removed with all adherent structures,

viz., much of the sternomastoid fasciæ, the internal jugular vein, and the spinal accessory nerve. The patient is now apparently free from malignant disease and in good health.

The case is of interest since: (1) The left side of the palate and left cord have become paretic; (2) the remnant of the left sternomastoid and trapezius have wasted; (3) the general condition of the patient is good, after suffering from undoubted malignant disease for some six years.

In reply to the Vice-President, Dr. Bond thought that the paralysis of the cord might be explained by the fact that the vagus was considerably pulled about during the operation, and of course it was possible that pressure was being exercised upon it by a deeper set of glands.

Recurrent Papilloma of the Larynx in a Girl of Eighteen.
Shown by Dr. Bond.

This patient came to Golden Square about eight years ago with papilloma of the larynx, which she seems to have had all her life. When first seen, in 1892, she had not, and was said never to have had, any voice. She was thought to be dumb, was said to have no laugh, and had considerable dyspnoea. Both cords were covered with papillomatous growth on the upper surfaces and edges, and there was a considerable amount below the cords in front. The growths have been cleared away every few months during the last eight years. The patient has now a fair voice, and the cords are almost clear, though it is some four months since the last operation. The case is of interest owing: (1) To the great length of time during which the growths have persisted; (2) to the fact that the growths are recurring with less and less vigour as the patient gets older. (3) The fact that a child of ten could be thought to be dumb owing to the presence of these growths seems a novelty in laryngology.

In reply to a question by the Vice-President as to whether Dr. Bond had used any local applications, the latter said that perchloride of iron grs. vij. ad 3j. had been used.

Dr. Grant suggested the use of a 5 per cent. solution of salicylic acid and absolute alcohol.

ITALIAN SOCIETY OF DERMATOLOGY.

MASSEI, Professor F. (Naples).—*Concerning a Case of Laryngeal Lupus.* ("Archivi Italiani di Laringologia," January, 1899.)

About three years ago a girl aged nine years was sent to me by an eminent syphilographer. On account of some preceding lesions of the pinnae and of the upper lip, the diagnosis of ulcerating tubercular syphiloderma had been made. Laryngoscopy revealed signs of considerable infiltration of the epiglottis and of other parts of the larynx, so that, in view of what I observed, and of the reputation of the colleague from whom the little patient came, I thought, with good reason, that the laryngeal lesions were likewise syphilitic. I advised him to insist on energetic local and general specific treatment. It was more than a year later when I saw the child again, and learned that numerous injections of sublimate had been assiduously administered, and that the iodides had been used with a free hand, but without any real improvement in the cutaneous or laryngeal symptoms. The former, indeed, had remained on the whole stationary, but as regards the larynx, not only was the epiglottis still infiltrated and of a pale rose-colour with serrated margin, but the arytenoids also were involved to such an extent that there was difficult abduction of the cords, hoarseness, and latterly dyspnœa.

These data convinced me that I had to do with a case of lupus, and on this occasion, the diagnosis was supported by several members of the Dermo-syphilopathic Institute of Naples, who described the lesions as those of an ulcerating tubercular lupus. I observed, moreover, signs of the disease on the uvula and the faucial pillars, but auscultation and percussion of the thorax excluded all participation of the lungs.

The bacteriological examination of the sputum and of the secretion removed directly from the larynx was negative as regards the bacillus of Koch; wherefore I added to the customary general treatment local applications of resorcin, and commenced to curette the more infiltrated portions of the epiglottis. During one of these procedures laryngeal spasm took place so severely that I should have lost the little patient if I had not immediately performed intubation, which in the subsequent treatment succeeded splendidly in relieving the laryngeal stenosis; so that at the end of a certain time all dyspnœic symptoms completely disappeared, and the voice became clear, notwithstanding that a notable degree of infiltration of the epiglottis and of the arytenoids persisted.

Inoculation experiments were made with the material removed by the curette, but without positive result; but the histological examination confirmed the tubercular nature of the lesion. The presence of the giant cells and the disposition of the epithelial cells within them was significant enough, and this was the opinion of eminent histologists who controlled the preparations.

I may be permitted to record, in reference to this, that for some time I have made use of this mode of examination in those cases of tubercular lesions of the larynx of doubtful aspect, in which repeated negative bacteriological examinations would have led me far from the true nature of the evil.

Unfortunately for my little patient, at the present time a progressive cachexia, very marked pulmonary symptoms, and many bacilli in the expectoration confirm the diagnosis made a year ago.

From the facts above described we can draw the following not unimportant conclusions for practical purposes:

(1) The difficulty in making a differential diagnosis between lupous and syphilitic lesions in certain cases, both in the beginning and also when lesions of the skin are accompanied by those of the mucosæ.

(2) The good service which intubation can render in the stenosis of laryngeal lupus.

(3) The valuable aids furnished by the histological examination of removed tissue, especially when the bacteriological examination and inoculation of animals have given a negative result.

But I must confess that I should not have allowed myself to call attention to these well-known matters if I had not another purpose in view.

A year ago Dr. St. Clair Thomson, at the Laryngological Society of London, showed a patient with *laryngeal lupus* and *pulmonary tuberculosis* for the purpose of discussing the association of the two lesions. The bacteriological results were positive as regards the presence of the bacillus of Koch in the expectoration, the pulmonary lesions were bilateral, and were in sequel to lupous manifestations in the nose. In the discussion, in spite of what we have learned from Friedlander, Chadeloux, Vidal, Leloir (1871-72) to Pfeiffer, Dontrelepont, Demme, Schuchardt, Krause, Koch, and from these to Max Schüller, Martin, Lingard, and Cataloni concerning the presence of giant cells and of tubercular follicles in skin affected by lupus; in spite of the impressions regarding the presence of Koch's bacillus and of the positive results of inoculation in animals, Stewart gave it as his opinion that this was a case of

laryngeal tuberculosis, and not of *lupus*; while Lack and Bond stated that they had observed cases of *lupus of the upper air passages* which after some years terminated in phthisis. St. Clair Thomson says the relation between *lupus* of the skin and phthisis is only too well known: and Bosworth has affirmed, not later than in 1896 (in his excellent papers), that he has known only one case (that of Thoma) in which *lupus* of the throat was coincident with tubercular deposits elsewhere.

Convinced as you are, like myself, that *lupus* of the larynx is at bottom like *lupus* of the skin, tuberculosis, your astonishment at hearing this is doubtless not less than mine at reading the proceedings of the meeting referred to, and you will have already perceived that, in order to protest against this dualism, there is no better way than to call *lupus of the larynx* by its true name; in other words, to definitely cancel this title and replace it by *laryngeal tuberculosis*, seeing that between *lupus* and tuberculosis of the larynx there is not, in substance, but one point of difference—*i.e.*, the coincidence of cutaneous lesions in the former. This lamentable error, if I may say so, is the result of applying the term *lupus* to certain forms of *cutaneous tuberculosis*. I know well that, *clinically*, the various forms of *lupus vulgare* and of *lupus erythematosus* should be distinguished from warty tuberculosis of the skin as well as from the anatomical tubercle, from ulcerous tuberculosis and from *tuberculosis gummosa*; but I may be allowed to ask, To what end have so many bacteriological studies and experiments led if, after having recognised the true nature of an affection, we continue to render homage to Manardo, who for the last four hundred years has been sleeping tranquilly on his “*quasi lupus famelicus proximas sibi carnes exedit*”? It is a gratuitous insult to pathology as well as to logic—to pathology, which teaches that *lupus* in reality is cutaneous tuberculosis; to logic, which warns us against applying two distinct names to the same thing.

To the experienced the confusion is only apparent: *lupus vulgare*, with its varieties, and the erythematous form can be distinguished from cutaneous tuberculosis; it is established that the former are the expression of tuberculosis less virulent than the latter; that in direct inoculation they are usually, if not constantly, transformed into papillomatous tuberculosis, and that *lupus vulgare* is the first manifestation of tuberculosis, while tubercular ulcerations are for the most part secondary lesions, resulting from auto-inoculation. On the other hand, he who, without this special knowledge, finds himself called upon to unravel this intricate problem, ends by asking himself whether merely clinical differences

are enough to justify the perpetuation of these distinctions, while the cause is the same and the pathogenic agent identical.

And when from lupus of the skin we pass to that of the mucous surfaces, we see still more the confusion which arises and the errors provoked by this inopportune homage to the past.

However, it seems to me I hear this said : "Lupus vulgare is an attenuated tuberculosis, and as regards erythematous lupus, we have not yet any apodictical proof that it is of the same nature."

Notwithstanding these grave objections, I do not yet find the separation into two morbid forms justified merely on account of a different degree of virulence; nor am I able to understand why the localization of the bacillus at one time in the corium, at another in the papillæ, or in the sebaceous glands, gives a right to create two separate denominations. Neither does the criterion derived from the *primary* or *secondary* character of the lesion seem sufficient to me to warrant changing the name of the same thing; it would be as foreign to the principles of nomenclature if we were to distinguish the source of integumentary tuberculosis according as this was produced by direct inoculation from without, by contiguity, or by the blood stream.

The various localizations of the pathogenic agent and the multiplicity of ways by which it reaches the tissues referred to explain the polymorphism, the possible complications, and the varying gravity of the form; but they do not authorize us to dismember a category, already important enough in itself, in order to create so many others which are certainly not easy of comprehension.

And, again, is this term *attenuation* rigorously restricted to attenuation of the bacillus? or is it to the anatomical conditions in which the bacillus exists, as Lesser has already noted?

In connection with this, I must refer to some beautiful researches made by Dr. Olimpio Cozzolino in 1895 in the Institute of Hygiene of the Royal University of Naples, and under the control of Professor de Giaxa. The inoculations in the backs of rabbits of a pure culture of the *Bacillus tuberculosis* diluted in broth have demonstrated:

(1) That the tubercular bacilli diminished in number progressively in the days succeeding the inoculations, so that an extremely small number remained after four to six months.

(2) That they presented the characteristic and progressive alterations in what is considered the normal form.

(3) That this artificial tuberculosis diffuses itself constantly in the internal organs, preferably the lungs.

The skin up to a certain point acts as a protective barrier against the generalization of the process, in virtue of the rigorous separation between the sanguineous and lymphatic paths: but it is a barrier which can be broken down under given conditions, and hence the possible diffusion of tuberculosis in other organs can excite no wonder. Therefore, unless I mistake, cutaneous tuberculosis is for the most part, for anatomical reasons, a tuberculosis more or less *attenuated*, according to the layer involved, and according to the mode in which it originates: but this attenuation does not save the victim of lupus from future evils, often irreparable, and always represents the doleful sword of Damocles.

In 1890 I saw a case of primary laryngeal lupus: tracheotomy was performed for grave stenosis, the child recovered as if by magic, but presented afterwards signs of *mesenteric tuberculosis*. In the clinic of De Amicis, I have been told, a cutaneous lupus was followed by *tubercular nephritis*, and how many other examples could be demonstrated I shall learn to-day from yourselves.

Darkness still surrounds erythematous lupus; but when one considers that various forms of tuberculosis may co-exist in the skin of the same person, and even in the same region, that, according to some, erythematous lupus can change itself into lupus vulgare, and that the objections made to this rest only on the doubt of the possibility of such a change (I refer to those forms of erythematous lupus which gave positive results with inoculations), it is not out of place to foresee that time will render justice also in the case of this equivocal form.

I do not conceal from myself the difficulty he meets who attempts to overthrow a custom which boasts an age of four centuries, nor can I deny that conventionalism would suffer by the innovation: however, in confronting the thunderbolts of your destructive criticism, I have in my favour the support of facts.

But if, as I have said, you also will agree that the word *lupus* is an offence to common-sense as well as to modern progress, it is only just that the alteration should be made, not by an obscure name such as mine, but with the authority of a competent body of men such as the members of the Italian Dermatological Society.

JAMES DONELAN.

PROCEEDINGS OF THE SOCIETY OF HUNGARIAN EAR AND THROAT SURGEONS.

February 24 and March 3, 1898.

Monatschrift f. Ohrenheilkunde, July, 1898.

President: Herr v. NAURATIL. *Secretary*: Dr. POLYAK.

Dr. ONODI showed *Brain from a Case of Perforation in which the Child breathed and cried.*

The brain was cut off from the medulla at the level of the anterior pair of corpora quadrigemina. This agrees with the results of Onodi's experiments upon animals. In another case division of the medulla above the vagus roots caused loss of voice, but breathing was unaffected.

Preparation showing the Respiratory and Phonatory Nerves of the Larynx in the Horse.

It is possible to trace the two sets of fibres in the trunk of the recurrent in the neck, through the sympathetic connections at the upper part of the chest, into the trunk of the vagus. In accordance with the double function of the larynx, the respiratory and phonatory nerve fibres run in separate isolated bundles from the brain to the muscles of the larynx. The respiratory fibres are closely related to the sympathetic and cardiac nerves.

Herr v. NAURATIL. *Three Cases of Chorditis Vocalis Infr. Hypertrophica.*

The first case was that of a peasant aged fifteen, who had been ill four months. The swelling was of a pale-rose colour. The second case was a labourer of thirty-seven, who had been hoarse for nine months. Tracheotomy was done in both cases. A year later the second case was distinctly scleromatous, the left crico-arytenoid joint being ankylosed. The third case was in a man of fifty-eight, and was probably syphilitic, as it improved under iodide and mercurial inunctions.

Herr ZWILLINGER remarked that cases of atrophy were sometimes visible in scleroma, and he referred to his article on sub-glottic swellings (*Wiener Med. Wochenschrift*, 1887). He thought the first two cases were scleroma, the third syphilitic.

Herr BAUMGARTEN pointed out that excision was no radical cure, and must in any case be followed by intubation, to keep the passage open.

Herr POLYAK remarked that scleroma bacilli could only be

considered diagnostic when found in sections, in the cells of Miculiez, or in the lymph spaces after the cells had burst.

Herr MORELLI said the bacteriological diagnosis was sufficient. After incision of the swelling, he removed secretion with a sterilized needle, and prepared cultures on gelatine.

Herr NEMAI referred to the various causes of sub-chordal swelling, and said that in scleroma the swelling was always uneven or mammillated in character.

Herr NAURATIL recommended intubation in non-scleromatous cases, and in scleroma excision. He had operated on three cases without recurrence.

Paralysis of One Vocal Cord following Excision of a Thyroid Cyst.

A piece of the recurrent, 2.5 cm. long, which was embedded in the tumour, was accidentally removed. Paralysis was at first absolute, but in two months recovery was nearly complete.

Papillomata recurring for the Fifth Time.

In the first three recurrences the tumour was single, and did not return in the same spot from which it had been removed, but generally pretty near it. The last recurrence was multiple. He proposed once more to try endo-laryngeal operation.

Tracheotomy in Tubercular Peri-chondritis.

A charwoman of thirty-two, six months pregnant, was admitted to hospital in a state of suffocation from swelling of the false cords and aryteno-epiglottic folds. Tracheotomy was at once done. There was catarrh of both apices and some dulness. In three weeks swelling subsided, and she went out, wearing the tube on account of her approaching labour. Two months after confinement she returned with her larynx perfectly sound, except for slightly impaired mobility of one arytenoid. The case shows the great value of tracheotomy as a curative measure in tubercular peri-chondritis, without extensive lung disease.

Herr POLYAK. *Case of Gummatous Syphilis of the Larynx.*

A man of forty-two, after working in water up to the waist, got a sore throat, with dyspnoea and some stridor. He lost flesh and appetite. No fever on admission. Left side of palate paretic; epiglottis three times as thick as normal, and deep purplish red. Arytenoids, aryteno-epiglottic folds, and false and true cords, diffusely infiltrated, injected and swollen, causing stenosis. Chest somewhat flattened; some inter-scapular dulness, and rough breathing. Inguinal glands enlarged. The laryngeal picture was that of diffuse gummatous infiltration in the stage before ulceration,

as described by Lewin. Injections of sublimate caused rapid improvement.

Herr POLYAK. *Malignant Tumour of Right Nostril.*

The nostril was completely filled and the septum displaced. The growth projected backwards into the naso-pharynx. The probe showed that it was attached to the outer wall in the region of the inferior turbinal. Probably it was a fibro-sarcoma. Duration, seven years. It began during pregnancy.

Herr KREPUSKA. *Mastoiditis without Otitis.*

A man of fifty-eight had a large, doughy, partly fluctuating swelling behind and above the auricle, overlying the lower part of the parietal bone and the base of the mastoid process. The upper wall of the meatus was depressed. No fever; jugular vein normal. The absence of middle-ear suppuration was remarkable. The most likely diagnosis, syphilitic or tubercular otitis.

Herr POLYAK. *Syphilitic Necrosis of the Vomer.*

The whole vomer was exfoliated and lying free in the nasal cavity. The cartilaginous septum was intact.

Herr ZWILLINGER. *Bleeding Polypus of the Septum* in a man of fifty.

A reddish-blue tumour springing from the cartilaginous septum, and almost filling the anterior part of the nostril.

Herr SZENES. *On the Closure of a Perforation in the Membrana Tympani by the Application of Trichlor-acetic Acid.*

The patient had suffered from post-scarlatinal otorrhoea for eighteen years. There was a perforation as big as a lentil-seed in the posterior part of the membrane, but no bone disease or granulation tissue. Suppuration ceased under iodoform gauze packing, and the perforation healed completely after seven applications of the acid, at intervals of seven to fourteen days. The scar was adherent to the promontory. Hearing not improved.

Herr KREPUSKA said the remedy had no specific value, any more than others. Cases should be selected. Only those in which inflammation was absent, and in which experimental closure (with glycerine or wadding) produced benefit, were suitable for the treatment. In the case described, the adhesions were very likely to cause trouble, dizziness or tinnitus.

Herr TOMKA remarked that cicatrization excluded many injurious influences.

Herr NEMAI: It is a useful caustic, nearly as powerful as

chromic acid, strongly styptic, and not poisonous. I apply it to tonsils that are unsuitable for cutting; also after using the galvanocautery, or scraping out suppurating granulations.

AUSTRIAN OTOLOGICAL SOCIETY.

June 28, 1898.

Monatschrift für Ohrenheilkunde, July, 1898.

President: Professor URBANSCHITSCH. *Secretary*: Dr. KAUFMANN.

Dr. ALT showed a *Dog* from which he had recently removed the Cortex of both Temporal Lobes.

It was quite deaf.

Dr. HAMMERSCHLAG said experience proved such deafness to be transient.

Professor GRUBER. (1) *Sections of a Papilloma of the External Meatus.*

It sprang by a broad base from the posterior wall, and was removed by the knife.

(2) *Caries with Cholesteatoma of Left Temporal Bone; Radical Operation; Death from an Old Abscess of the Cerebellum*

A man of thirty had suffered from otorrhœa since he was six. In his eighth year he had a mastoid abscess, which burst externally, but soon healed. Otorrhœa and deafness continued, but his health was good till a few weeks before admission, when he began to suffer from headache and dizziness. On admission his temperature was 103° F., and he had a violent rigor. No mastoid tenderness or enlarged glands. Meatus reduced to a slit by swelling of the posterior wall; granulations visible in the deeper part. On operating, the mastoid cells, antrum and attic, were found full of inspissated exudation and cholesteatomatous masses. The typical radical operation was performed, and all diseased bone removed. No communication with the interior of the skull could be made out. After some temporary improvement headache and somnolence became marked, facial paralysis appeared, and the patient died on the ninth day.

Post-mortem.—A chronic abscess as big as a hen's egg was found in the left hemisphere of the cerebellum, surrounded by a zone of recent inflammation. On the posterior surface of the pyramid, between the opening of the aquæductus vestibuli and the sigmoid sinus, was a patch of inflamed dura as big as a sixpence. The bone, however, was not perforated, but a thin band of inflamed

connective tissue stretched backwards under the dura towards the sigmoid sinus, and along this band the infection seemed to have travelled. The tegmen tympani was intact. Noteworthy is the prolonged absence of symptoms and signs in this case, and also a tendency the patient showed to incline his head strongly to the diseased side, supporting it with his hand.

Dr. PANZER mentioned Gradenigo's work, and said he laid stress upon progressive somnolence in cerebellar abscess. He also pointed out that disease of the tegmen tympani caused abscess of the temporal lobe; while disease of the mastoid, or sinus, was more likely to cause cerebellar abscess.

Professor POLITZER. (1) *A Temporal Bone in which there were a Series of Air Cells beginning beneath the Cochlea and extending to the Apex of the Petrous Portion.*

They communicated with a canal in the floor of the tympanum, in close relation to the jugular vein and carotid artery.

(2) *A New Ear-trumpet.*

In this, instead of a complete funnel being used as a sound-collector, only half a funnel is used, constructed on the model of the horse's or ass's ear. It conducts well, and disturbing accessory noises are almost absent.

Dr. W. SINGER. (1) *A Case of Phlegmonous Peri-chondritis following the Radical Operation.*

Swelling of the auricle and meatus came on six weeks after the operation, and there was free suppuration. Dr. Panzer showed a similar case last year, in which the auricle was greatly shrunken. His case also came on six weeks after the radical operation. Grunert attributes this unfortunate accident to the undue extension of the horizontal incision through the membranous meatus, so that it extends into the auricle. This view is contrary to the experience of the Vienna Poliklinik, where the practice has been to divide the auricle freely.

(2) A peasant of fifty-three, in whom masses of *Dry Cholesteatoma* had been removed from the antrum and mastoid cells.

There was a carious opening in the tegmen tympani as large as a hazel-nut, and the dura mater could be seen pulsating.

Dr. BING described a *Modification of the Small End of the Ear-trumpet.*

The end is made larger, and is fitted against the auricle at the point where it joins the meatus. A second branch of the same tube may be applied to the mastoid.

Professor URBANSCHITSCH showed *Specimens illustrating the Influence of High and Low Musical Notes upon the Handwriting.*

Deep notes seem to produce a feeling of muscular relaxation ; the letters become larger, and the character of the writing somewhat uncertain, and tending to fall below the line. High notes seem to produce increased muscular tension ; the writing becomes small and jerky, and often tends to rise above the line. These are only preliminary observations ; Urbanschitsch draws no general conclusions.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

(Continued.)

STRAIGHT, HOWARD S., M.D. (Cleveland, Ohio).—*Hæmorrhage of the Larynx*, with cases.

Case 1 : In February, 1898, an Englishman, aged thirty-seven years, was referred to me for examination of the throat. Fourteen years before he had had a marked expectoration of blood that lasted two or three days ; it then ceased. For a few months following, he expectorated at times small quantities of blood. At this time his general health was in no respect affected. Seven years before coming under observation he had a recurrence of the hæmorrhage, and during the next four years he had hæmorrhages at intervals varying from a few weeks to a few months. For three years before he had been much worse. In December, 1895, after taking a severe cold, he had had a very profuse hæmorrhage lasting for a number of days. For three weeks before his visit to me he had an almost constant slight hæmorrhage, being able to raise small masses of blood at almost any time by clearing his throat, especially on rising. He had never suffered in any way from catarrhal troubles of the upper air passages or larynx. His hæmorrhages occurred without having any special reference to having a cold at time of bleeding. A general examination revealed nothing abnormal. He had slight hypertrophic rhinitis only. An examination of his larynx revealed a general engorgement of the bloodvessels of the larynx, the epiglottis, and base of the tongue. No bleeding-point could be detected, although he had expectorated quite a little blood within a few hours before his visit to me, nor could I detect any bleeding-point within the next two months, although he had a number of slight hæmorrhages.

One Monday morning, after singing at church the night before, he had quite a profuse hæmorrhage, but no bleeding-point could be detected, although I saw him in the middle of the forenoon. At the first visit I sprayed his throat with a weak solution of nitrate of silver. This treatment was repeated at first daily, and after three or four daily treatments, every second day for a short time. The improvement as to expectoration of blood was immediate. Also the engorgement of the bloodvessels was improved after a treatment or two. The reappearance of this engorgement of the vessels was noticeable after having sung in church, and the occurrence of the sharp hæmorrhage the following morning. Upon continuance of the treatment as outlined, with rest of his voice and a slight cauterization of the lower turbinated bodies, the hæmorrhage promptly disappeared, and, after continuing this treatment for three weeks, I gave him a 2 per cent. solution of nitrate of silver to use as a laryngeal spray night and morning, and told him to report if he had more trouble. For two months he has had no hæmorrhage whatever. From his history I believe that his hæmorrhages were from the free surface of the larynx or adjoining parts of the throat, and that at no time had the hæmorrhages occurred subcutaneously.

Case 2: In 1895 a man, aged thirty-five years, consulted me as to the origin of hæmorrhages—expectoration of blood—from which he had suffered at times for sixteen years. His first hæmorrhage had occurred when he was nineteen years of age, after a sharp run for a train. From this time until his visit to me he had recurrences of expectoration of blood at intervals, varying widely in length. He had never had a profuse hæmorrhage. He had been sent to Colorado because of his hæmorrhages, but with no benefit. A careful general examination revealed nothing abnormal. He never had any rise in temperature while he was under observation—a period of eighteen months. An examination of his upper air passages revealed nothing abnormal. An examination of his larynx revealed nothing except a bleeding-point—a minute ruptured bloodvessel, in the anterior third of the left vocal cord; I could watch the blood as it flowed down the cord and into the posterior part of the larynx. I kept him under observation for eighteen months, and saw him a number of times when suffering from hæmorrhage. The hæmorrhage always came from the vocal cords, and the bleeding-point could always be detected. At no time while under my observation, or at other times, as far as his history revealed, had he suffered from a submucous hæmorrhage. This patient I treated with a spray of ferric alum. I never could decide if it had any special influence on the

case, either in arresting the hæmorrhage after it started, or in preventing a recurrence. The hæmorrhage usually lasted from one to three days, and recurred at varying intervals. It did not seem to be connected in any special way with taking cold. The patient had never suffered from any throat trouble outside of the time of hæmorrhage. In the spring of 1897 he went to New Mexico. After being there for six months, he died from a profuse hæmorrhage from his larynx. At no time during the six months' stay in New Mexico had he suffered loss of flesh or strength, night sweats, cough or expectoration, gastro-intestinal disturbances, or any other symptom of tuberculosis.

REMARKS ON CASE I.

Although no bleeding-point in this case could ever be discovered, there is no good reason to believe that this case was other than a laryngeal hæmorrhage. The general engorgement of the blood-vessels of the mucous membrane of the larynx and adjoining parts of the throat, the prompt improvement of this engorgement under astringents, as well as the prompt disappearance of the hæmorrhages from local treatment only, the reappearance of the hæmorrhages after using the voice in singing, all argue strongly in favour of the diagnosis. The absence of disease of the lungs also leaves little room for doubt as to the source of the hæmorrhage.

REMARKS ON CASE II.

The detection of the bleeding-point on repeated occasions leaves no doubt as to the diagnosis in this case. The history of the patient before coming under observation, the history after passing from observation, the evidence acquired during the eighteen months while under observation, all substantiate the diagnosis of uncomplicated hæmorrhage from the larynx. The manner of death was unusual. Authorities state that there is no case on record of death from laryngeal hæmorrhage. I see no other explanation possible in this case, yet I confess that it seems impossible that any one of the laryngeal vessels, when ruptured, should furnish blood sufficient to cause death. An expectoration of blood in any quantity has its source ordinarily from some part of the pulmonary tissues. It is easy enough to tell a patient that the blood comes from the throat, if, upon examination of the chest, no marked lesion is found. However, I am very certain that the source of the hæmorrhage is pulmonary, even in the absence of marked lesion. I remember distinctly a case of pulmonary hæmorrhage in a lad aged eighteen years, who presented himself to me within a

few hours after the occurrence of a sharp expectoration of blood. His history for the last few weeks was negative. He had lost no flesh or strength to his knowledge, nor had he suffered from gastro-intestinal disturbances. His evening temperature was 98.5° , and his pulse 90° . A careful auscultatory examination of his chest revealed only transference of heart-sounds at the left apex and a patch of subcrepitant râles. I kept the patient under observation for a number of months. During the next six weeks the physical signs at the left apex became more marked, in spite of treatment and in spite of great improvement in his general condition, although upon coming under observation he was not conscious of feeling less vigorous than usual. The physical signs in this case were never marked. If, after the first examination of the chest, and no marked lesion being discovered, the case had been considered a hæmorrhage from the throat, and the patient had been given general tonic treatment, or possibly no treatment at all, the case might have been considered as a hæmorrhage from some portion of the upper air passages, and not as having had its source in the lungs. I surely have seen many such cases in the last twelve years. Whether the condition of the lungs responsible for such hæmorrhage is necessarily tubercular need not enter into this discussion. I believe that if a patient, having expectorated blood in any quantity, is watched, and his chest carefully examined at intervals for a few weeks or months after the hæmorrhage, time will prove the hæmorrhage to have been pulmonary in origin in the great majority of cases, although at the occurrence of the bleeding nothing special in the chest may have been detected. A laryngoscopic examination in such a case is, of course, of great importance, although, in the absence of a bleeding point or a general engorgement of the bloodvessels of the lower throat, a physical examination of the chest is of no less importance.

Cases of laryngeal hæmorrhage are rare. Authorities agree as to this point. That such cases do occur is surely certain. The hæmorrhage may be from the free surface of the larynx from the rupture of a vessel, as in one of the cases reported, or it may occur as an extravasation into the sub-mucous tissues. The hæmorrhage can also arise as a diapedesis from the bloodvessels. The term hæmorrhagic laryngitis, under which this form of disease has been designated until more recent observation, is not a fortunate one. This term presupposes that the hæmorrhage occurs as a part of an inflammation of the larynx. This is not the case necessarily, as the hæmorrhages often occur while the patient has no inflammatory condition of the larynx. The disease may occur in patients of

perfect health, and, as far as my observation goes, this has been the case. It is easy to understand how a hæmorrhage of the larynx might arise in patients suffering from any organic disease of the heart or bloodvessels, the lungs or abdominal viscera. I confess, however, that I have never seen a case under such conditions. To decide the determining cause in cases like those reported is not easy. It seems to me that the explanation is only to be found in some abnormal condition of the bloodvessels. Whether this pathological condition of the laryngeal vessels may be produced by any disease of the air passages above the larynx is a question that I think can be answered in the negative. There was no such explanation in the cases reported. The hypertrophic rhinitis was slight, and I attached little importance to its presence. If marked abnormal conditions of the air passages above the larynx had ordinarily anything to do in the etiology of such cases, their occurrence would not be so rare. The patient probably possesses weakened laryngeal vessels, with a tendency to rupture, and consequent hæmorrhage. This view seems as reasonable as that certain patients should have a tendency to repeated nasal, uterine, vesical, or hæmorrhoidal hæmorrhages.

Dr. CHARLES W. RICHARDSON, Washington, D.C.: I have been very much interested in Dr. Straight's paper—very much interested, because I had thought last winter of reporting a series of cases that sound almost like Dr. Straight's cases. I had not thought of reporting them as laryngeal or post-nasal hæmorrhages so much as tubercular hæmorrhages. These cases of Dr. Straight's have been interesting to me also because for periods of two or three years patients have been under my observation who have had copious hæmorrhages from the larynx or pharynx, although examination would fail to show the exact site of the hæmorrhage, and they were supposed to be laryngeal or post-nasal simply because there was no tubercular lesion demonstrable in their lungs: nor could the tubercle bacillus be discovered in the examination of the sputum. These cases have been followed carefully. The hæmorrhage at times would range from 2 ounces to 1 quart. In one case I was hurriedly summoned; a carriage was sent for me to come at once and attend a hæmorrhagic case. It was only about five minutes' drive. When I arrived they were holding a basin to receive the blood. The patient was a man of 200 pounds, a man of magnificent physique, and he had lost over a quart of blood. The flow had about ceased when I arrived. I kept him in bed for a few days. Examination at the time showed that the larynx and post-nasal cavity were filled with blood. The discharge was very copious through his nose and

pharynx. We could find no evidence of tubercular lesion in his lungs and no bacilli in his sputum. Inasmuch as I have referred at such length to this case, I might as well end it. During the next two or three years he had several more hæmorrhages, almost as copious, and about a month ago had three hæmorrhages in one night—was almost exsanguinated. For four days after this I saw him daily. Examination still failed to discover any source of the hæmorrhage, but I was convinced that such an amount of blood could come from no source but the lungs. On the fifth day I found evidence of tuberculosis in the right apex. He is now running the course of the most typical case of rapid tuberculosis which I have ever seen. I fully expect him to be dead when I reach home. This is one of the cases of suspected laryngeal hæmorrhage which was undoubtedly from the lungs. No tubercular bacillus had been found in his sputum until the last week.

During the Christmas holidays I saw a gentleman, a brother of one of our distinguished colleagues, who had had hæmorrhage of this same type. I telephoned his brother, told him of these hæmorrhages, and that I was certain the patient was tuberculous. He said No, very positively; that there was absolutely no tuberculosis. He told me that examinations had been repeatedly made, that there was positively no tuberculosis, and that the hæmorrhages were from a local laryngeal source. I examined one of the clots, and found tubercular bacillus, and, in an examination of the lung, found a slight infected area. I saw another case of the same type of hæmorrhage about four years ago. He came to me the day after the first hæmorrhage, and on examination I thought I could distinguish a lesion in his post-nasal cavity. I was suspicious of tuberculosis, but I told him not to worry, that the hæmorrhage probably came from the lesion referred to. I treated him for a few days, and then saw him no more for about six months. He then had another slight hæmorrhage. I examined his chest and some of the blood-clots, but could find nothing. A short time afterward there was a copious hæmorrhage. I kept him under treatment of the post-nasal cavity for some time. He gained in flesh, his physical appearance improved in every respect, and he kept on improving. All at once he commenced to run down. Examination at this time showed the presence of the tubercular bacillus in his sputum, and he is now in Asheville, under treatment for tuberculosis. Therefore I say we must be very careful in asserting that a hæmorrhage comes from the larynx, or from the pharynx or the post-nasal cavity, unless we can see sufficient in these regions to account for the amount of hæmorrhage that takes place. We all

know how frequently these hæmorrhages do take place from the lungs in which we can find no evidence of tubercular lesion at all, until finally the tuberculosis is fully established.

Dr. S. E. SOLLY, Colorado Springs, Col.: This is a subject that is exceedingly interesting to me. Living in Colorado, such cases often come under my notice. Of course we all know that cases of laryngeal hæmorrhage do occur, and Dr. Straight's case may have been of this type; but in my experience they are very rare. As Dr. Richardson has said, when the hæmorrhage is profuse it is generally from the lungs. I have never seen a case of laryngeal hæmorrhage in which the hæmorrhage was the cause of death, and I cannot but think that the case under discussion was one of pulmonary hæmorrhage. We are very apt to think that a case of pulmonary tuberculosis must show absolute signs, although we know that this is not always the case. Pulmonary tuberculosis may occasionally exist for years without exhibiting any of the characteristic signs in the chest, and without bacilli being found in the sputum. Whether the X-rays will help us to discover these cases earlier or not I am not personally sure. We are all working upon this question in Colorado. Success has already been expected by good authorities in other places.

I think in a case of hæmorrhage where there is no discoverable source that we should examine the temperature carefully. A slight rise in temperature may prove a clue to the diagnosis. Of course, the rise would not be large, and might be due to the mental perturbation; but if we get a little rise in the afternoon, it certainly should be taken into consideration. Tuberculosis may be present and yet remain limited and quiescent, and yet it does not give rise to advancing disease—that is, the disease will be limited and remain quiescent perhaps for years.

Dr. ROBERT LEVY, Denver, Col.: I would like to ask Dr. Straight if he made a careful search for aneurism in the latter case.

Dr. H. S. STRAIGHT, Cleveland, O.: A careful examination revealed no suspicion of aneurism.

Dr. HENRY L. WAGNER, San Francisco, Cal.: I am reminded by Dr. Levy of a case I have observed some years ago, where post-mortem examination showed no tuberculosis. The patient had had several hæmorrhages, which seemed to come from the trachea, and a careful examination was made for tuberculosis; but nothing could be found, neither any bacilli in the sputum. A careful examination showed a marked pulsation of one tonsil, and I referred him to one of my colleagues for physical examination, by whom the diagnosis—aneurism of the aorta—was given. The hæmorrhage from the throat

was quite profuse and almost impossible to control. Some three or four months later the patient died, and the post-mortem verified the diagnosis.

Dr. PRICE BROWN, Toronto: About five years ago a man, aged sixty-four, came under my observation. He was an Englishman—one of your high livers. He consulted me in regard to a hæmorrhage from the throat. He weighed some 200 pounds. I examined his pharynx, and found it covered with little bloodvessels. He was a very plethoric person, and I thought the hæmorrhage might and probably did come from this network of veins. I put him on a light diet, and he lost about 20 pounds in flesh. I also cauterized several of the little bloodvessels in the back of the throat. That was five years ago. He kept his weight down to about 180 to 190 pounds. He has had several hæmorrhages since. He is still a live and active man, sixty-nine years of age. The short diet is still persisted in. I think the hæmorrhage may be due in plethoric persons to hæmorrhage through the thin walls of the exposed bloodvessels; especially is this the case with old men.

Dr. F. J. QUINLAN: I have been very much interested in the remarks of the various speakers. I think in all such cases of spitting up blood that particular attention should be paid to the lingual tonsil, as well as the base of the tongue. The hæmorrhage is frequently associated with a varicose condition of the vessels. These hypertrophied tufts are frequently congested and filled with blood, and the bloodvessels may be very easily ruptured by coughing or any unusual exertion; it is well, therefore, to carefully scrutinize these parts. It is wise for us to be cautious in the removal of this redundant tissue, and not to cut too deeply, especially if the parts show marked vascularity.

I think one of the speakers has said that, in arriving at a diagnosis, the temperature should be taken into consideration. If there is a tuberculous condition, there is almost certain to be a slight rise of temperature and more or less acceleration of the pulse, though perhaps no bacilli may be found.

Dr. WENDELL C. PHILLIPS, New York: I did not have the pleasure of hearing all of the paper. It has been my experience that removal of the hypertrophied tissue at the base of the tongue has not usually been followed with great improvement to the singing or speaking voice, but much relief to the painful irritability of the throat may be expected.

Dr. MAX THORNER, Cincinnati: I do not think Dr. Straight is entirely wrong in the matter of too frequent operations upon hypertrophied tonsils, and that often the enlarged tonsil does no harm;

but on the other hand, I have seen very excellent results produced by the removal of the hypertrophied growth. I think in making our examinations that at times we do not make them sufficiently complete. The trouble is not always located in the pharynx nor in the laryngeal region, but on the base of the tongue. There are many conditions which do not need operations—cases of acute inflammation of the lateral region of the tongue and of the lingual tonsil. These affections are very painful, and the patient goes from one physician to another for relief; but, strange to say, the actual source is often overlooked. If you look into the mouth with a tongue depressor, you cannot see the trouble. If you take a napkin and draw the tongue well forward and sideward, you will see these regions very distinctly, and will frequently discover inflamed spots on the side of the tongue as small as pin-heads. These may be treated, if acutely inflamed, by any of the astringents; nitrate of silver in 5 to 10 per cent. solutions is often very beneficial. If the lingual tonsil is very much enlarged, however, as the result of chronic inflammation, or if the papillæ on the side of the tongue are greatly hypertrophied, and are a constant source of irritation, nothing will give better results than their removal, by either clipping them off or destroying them with the galvano-cautery.

Dr. DWIGHT L. HUBBARD, New York City, N.Y.: It seems to me in a study of this kind we should not entirely overlook the several constitutional conditions which exist, such as a rheumatic diathesis, uric acid, etc. There is another point also which should not be overlooked. Patients with enlarged lingual glands will always have a throaty condition of the voice; and I think this is sometimes caused by not using the voice properly—not calling into use the air-chambers above. The volume of air is not carried upward or forward with sufficient effort, and the voice lacks resonance. In these cases it is our duty to remedy any pathological condition of the pharynx, to treat these disturbances, and also to teach the patient how to use the voice properly in order to produce a proper head or nasal resonance. By little instruction in this latter particular you will find your patients will gain in range in the upper and lower registers with a decided clearing up of the throaty quality.

Dr. ROBERT C. MYLES, New York City, N.Y.: These hypertrophies of the tonsils are quite frequent in children, and are often associated with other diseases: and frequently we can remove these hypertrophies in children with relief of laryngeal spasm and croup.

SARCOMA OF THE NASO-PHARYNX.

With Report of a Case, by D. D. Hengst, M.D., Pittsburgh, Pa.

(*Abstract.*)

SARCOMA is met with more frequently in the naso-pharynx than carcinoma. Up to 1889 Bosworth has collected nineteen cases of sarcoma which appeared in the naso-pharynx. The disease appears earlier than carcinoma. Ten of the above cases occurred between the ages of one and thirty years; and of the ten, five were between ten and twenty years. The male gender was more frequently attacked in the proportion of one to three.

The character of the secretion is somewhat diagnostic. It is of a sero-mucous character and quite ichorous and offensive. Epistaxis is often present. The general health is naturally much impaired, though no special cachexia is seen.

Difficult deglutition and dyspnoea, with impaired hearing, all depend upon the size of the growth. The origin of the tumour is usually from the basilar process of the occipital bone, beginning in the deeper layer of the mucous membrane lining the pharynx, and growing in the form of lobulated rounded growth. Infiltration extends in all directions. The colour of the growth depends upon its vascularity and composition. The only positive way we can reach a diagnosis is by microscopical examination of a section.

Carcinoma is usually more firm to the touch. Enlargement of the cervical glands generally occurs early in pharyngeal malignant disease, and is observed in about one-third of the cases.

Prognosis.—The earlier in life, the more rapid the course of a sarcoma. A small round-celled tumour runs a much more rapid course than a spindle-celled variety. A mixed growth grows less rapidly. Generally the prognosis is exceedingly unfavourable.

The author prefers the cold snare in removing the tumour, and slits the palate, if necessary, to get at the growth. In using the cautery snare there is danger of exciting inflammatory reaction of a severe character in the surrounding healthy structures.

The external operation should only be performed when all other means are out of the question, and it gives promise of prolonging the life of the patient, if the patient's condition is fair at the time of operation.

The case reported by the author was a young male fourteen years old. Difficulty in breathing, dysphagia, headache, dulness of hearing, epistaxis, with an ichorous, irritating discharge from the nostrils, were prominent symptoms. The enlargement of the cervical glands could be detected.

There was bulging forward of the right side of the soft palate, presenting almost the appearance of an acute phlegmonous tonsillitis. A semi-solid mass could be felt almost completely filling the post-nasal space, and was attached to the walls of the pharynx and soft palate.

It was decided that an external operation was the only method advisable. Dr. Buchanan performed the operation by making an incision transversely from the zygomatic process of the malar bone, skirting the lower border of the orbit to its inner and lower angle. This incision was continued downward between the nose and cheek and along the upper lip to the median line, dividing the lip. After the soft parts were separated a wire saw was drawn beneath both bones by means of a blunt hook. Another saw was passed under the nasal process of the superior maxilla.

The soft palate and uvula were split in the median line, and a drill-hole was made well back in the middle line of the hard palate, through which another wire saw was drawn into the nostril. The bones were sawn through in a few seconds, and the superior maxilla lifted from its bed. The growth was cut away with scissors after extensive dissection, though it was impossible to remove it entirely. After the parts were brought together few signs of the operation remained.

Shortly after the operation, however, the naso-pharynx again filled with the mass, and the patient succumbed twenty-five days after the surgical treatment. The microscope showed the growth to be a small round-celled sarcoma.

BRAIN ABSCESS COMPLICATING CHRONIC PURULENT OTITIS MEDIA,

With Report of a Case by James F. McKernon, New York.

DISCUSSION.

EDWARD B. DENCH, New York: I was very greatly pleased to have the privilege of listening to this paper, the more especially as I saw one of these cases. It seems to me that we can learn just as much from cases which die as from cases which get well. It is a mystery why there is so little inclination to report fatal cases. All of us want to report cases which get well.

Dr. MAX THORNER, Cincinnati: I agree fully with Dr. Dench. I think we can learn about as much from the fatal cases as from those that get well. My experience with brain abscesses is some-

what similar to Dr. McKernon's first case. The patient was a man, the son of a physician. He was brought in a comatose condition to the neurological service of the Cincinnati Hospital, and transferred to my service. He had been a victim of chronic otorrhœa for many years. There was a very offensive discharge from the right ear, and the probe introduced into the attic would touch rough bone. The flow of this most offensive purulent discharge from the attic was very copious, and as the diagnosis of an otitic abscess in the temporo-sphenoidal lobe was made, we could have little, if any, hope for recovery, even if operation were performed. The father told us if there were any hope at all, even a little hope, that we should operate. I made first the usual tympano-mastoid operation, and found the antrum full of pus and granulation. The tympanic cavity was likewise filled with granulations; the walls were all over carious, especially the tegmen tympani, and upon introducing a probe through an opening in the roof offensive pus commenced to drop out. Each time I introduced the probe more pus would flow. In order to ascertain the exact location of the abscess I trephined the skull, made an incision in the dura mater, and introduced an aspirating needle in several directions, forward and backward, and found everywhere much pus mixed with brain matter. I now dilated the opening in the tegmen tympani, so that I could introduce my small finger, after which several ounces of exceedingly foul, greenish pus, mixed with débris, escaped. After the wound had been dressed and the drainage tube inserted, the patient appeared to be somewhat relieved of coma, and reacted slightly to external influences, but would not take food. He died about fourteen hours after operation. At the post-mortem an almost incredibly large abscess cavity, about the size of an orange, was found to have almost entirely taken the place of the temporo-sphenoidal lobe.

Another case of some interest is that of a coloured boy, aged ten years, who gave a history of chronic right-sided otorrhœa. His principal complaint was severe headache, especially in the forehead, which could not be relieved by anything, and a continuous dull pain in the left side of the neck, just below the left mastoid process. I made the ordinary mastoid operation, and found the antrum and attic full of granulations. Both cavities were thoroughly cleaned, and all carious bone removed. There was no evidence of any brain complication. The patient improved after the operation, and the temperature fell for a day or two. The pain then returned in the frontal region on both sides as severe as ever, also the pain in the left side of the neck. Examination of the fundus showed a slight

cloudiness of the disc. About ten days after the operation he suddenly became comatose, and before he could be subjected to another operation he died. To our greatest surprise, we found two abscesses in the right cerebellum, one evidently eight to ten weeks old. The most remarkable feature about this case was the fact that the pain was persistently located by the boy in the two frontal regions and in the left side of the neck, in the region of the mastoid insertion of the sterno-cleido-mastoid muscle. It could not be discovered at the autopsy how the cerebellum had become involved, save for a small discoloration and adhesion of the dura mater, the size of about a dime, to the posterior surface of the pyramid of the temporal bone.

Dr. ROBERT C. MYLES, New York: I might refer to a case reported a few years ago. The case is already on record, and I mention it simply because it is similar to the cases reported to-day. A mastoid operation was performed; when the curette reached the upper wall of the attic it crumbled away. A few ounces of pus were discharged, and we found a large cavity in the middle fossa. The child recovered.

Dr. ROBERT LEVY, Denver, Col.: We know that brain complications often accompany mastoid disease, in spite of early operation. I have in mind three cases which occurred recently in my practice and in the practice of a colleague. In two of these cases there was no evidence of previous ear trouble. Mastoid operations were performed promptly, but serious cerebral complications developed a purulent meningitis. During the operation we attempted to wash off the surface of the brain in order to remove the purulent exudate, but were entirely unsuccessful. In the post-mortem a very strong stream of water was played on the meningeal exudate without success.

Dr. CLINE, Indianapolis, Ind.: I would like to ask Dr. Thorner, in the case of the double-brain abscess, if there was any distinct sac.

Dr. THORNER: There was a distinct sac.

Dr. CLINE: Was there a sac in any of Dr. McKernon's cases?

Dr. MCKERNON: In my first case there was a sac, but not in the second and third.

Dr. CLINE: Was there a sac in the case of Dr. Myles?

Dr. MYLES: There was a cavity surrounded by adhesive tissue.

THE INTERNATIONAL OTOLOGICAL CONGRESS, 1899.

THE Museum Committee have requested us to give publicity to their needs, and it is with great pleasure that we do so.

Their chief want is: Specimens to illustrate any point or points in the anatomy, histology, and pathology of the nose, ear, or naso-pharynx.

A portion of the museum is to be devoted to private collections, which will be catalogued separately. The last day for the deposit of collections is August 5, and the first day July 26.

All data relating to the exhibition of specimens, their full description, etc., are to be in the hands of the committee by July 30, 1899.

Microscopical sections suitable for projection on a screen are asked for, in order that limelight demonstrations may be given by exhibitors. Further details will appear at intervals.

NEUVIÈME CONGRÈS INTERNATIONAL D'OPHTALMOLOGIE À UTRECHT, LES PAYS-BAS.

Du 14 au 18 Août, 1899.

MONSIEUR ET TRÈS HONORÉ CONFRÈRE,

Conformément à la décision prise par le Huitième Congrès International d'Ophtalmologie à Edimbourg en 1894, les soussignés se sont constitués en un Comité d'Organisation, et ont l'honneur de vous inviter à assister au Neuvième Congrès International d'Ophtalmologie, qui se réunira à Utrecht le lundi, 14 Août, 1899.

Pour les communications et pour les discussions les langues anglaise, française ou allemande seront seules admises.

Le matin on se réunira en séance générale ou en séances par sections; ces dernières seront constituées d'après les sujets dont elles auront principalement à s'occuper; il y aura donc:

- (a) Une section d'anatomie, d'anatomie pathologique et de bactériologie;
- (b) Une section d'optique et de physiologie;
- (c) Une section des méthodes cliniques et opératoires.

Dans chaque séance des différentes sections une des trois langues sera désignée de préférence pour les communications et les discussions, sans toutefois exclure complètement les deux autres.

Pour la direction du Secrétariat nous pourrions compter sur

l'obligeant et précieux concours de M. le Docteur A. McGillivray de Dundee, pour l'anglais, de M. le Docteur Aug. Dufour de Lausanne, pour le français, et de M. le Docteur A. Siegrist de Bâle, pour l'allemand.

Le montant de la cotisation destinée à couvrir les frais généraux ainsi que les dépenses pour les Comptes Rendus est fixé à 25 francs par personne.

Suivant le désir du Comité d'Organisation il s'est formé un Comité de Réception, composé de

M. B. Reiger, Bourgmestre d'Utrecht ;

M. le Dr. en Droit J. Baron d'Aulnis de Bourouill, Professeur à l'Université ;

M. le Dr. en Droit Jonkheer J. C. N. van Eys van Lienden, Ministre-Résident en Disponibilité ;

M. le Dr. A. A. W. Hubrecht, Professeur à l'Université ;

M. le Dr. en Droit Jonkheer J. E. Huydecoper de Maarsseveen et de Nigtevecht, Membre du Conseil communal ;

M. le Dr. H. Snellen, Professeur à l'Université.

Afin de pouvoir prendre à temps les mesures nécessaires, nous vous prions dès maintenant de vouloir bien faire savoir au dernier signataire de cette circulaire si nous pouvons compter sur votre participation au Congrès, et d'avoir en même temps l'obligeance de nous communiquer si vous serez accompagné de vos dames, qui nous feront le plus grand plaisir en contribuant par leur gracieuse présence à la réussite des excursions qui seront organisées pour l'après-midi, en cas de participation suffisante.

Nous vous prions, en outre, de vouloir nous faire savoir prochainement de quelles langues vous désirez vous servir de préférence dans les discussions. MM. les Membres qui ont l'intention de faire des communications sont priés non moins instamment de nous instruire à temps de leurs sujets.

MM. les Curateurs de l'Université d'Utrecht ont eu la bienveillance de mettre à notre disposition les locaux universitaires que nous leur avons demandés. On aménagera une ou plusieurs salles pour l'exposition d'instruments et d'autres appareils. Nous recommandons à MM. les Membres du Congrès d'apporter et d'exposer principalement des objets ayant un intérêt historique et de nous informer à temps de leurs intentions à ce sujet.

Nous espérons que vous vous trouverez à même de nous honorer d'une réponse favorable, afin que nous puissions, dans ce cas, vous adresser en son temps un programme plus détaillé.

Agréez, Monsieur et très honoré Confrère, l'expression de nos

sentiments cordiaux et l'assurance de notre considération la plus distinguée.

Le Comité d'Organisation :

- D. ARGYLL ROBERTSON, Président du Huitième Congrès.
 GEORGE A. BERRY, Secrétaire-Général du Huitième Congrès.
 M. E. MULDER, Professeur à l'Université de Groningue.
 M. STRAUB, Professeur à l'Université d'Amsterdam.
 W. KOSTER, Professeur à l'Université de Leyde.
 H. SNELLEN, Professeur à l'Université d'Utrecht.

UTRECHT, December, 1898.

Abstracts.

DIPHTHERIA, Etc.

Ausset, E.—*Diphtheritic Angina and Laryngitis in a Child Nine Months of Age.* "Bull. Soc. de Méd. du Nord," November 25, 1898.

RARE case of diphtheria in a child nine months old. The pharynx and larynx were involved, and the pseudo-membranous patches were characterized by Loeffler's bacillus. Intubation: the tube remained in the larynx for twelve hours; at the same time an injection of 10 c.c. of antidiphtheritic serum was given. The following evening, reintubation necessary. The third day disappearance of laryngeal troubles and cure.

A. Cartaz.

Gerovscy.—*Concerning the Serum Question.* "Wien. Klin. Rundsch.," No. 38, 1898.

THE author highly recommends the use of heilserum for treatment of diphtheria as the best cure.

R. Sachs.

Kassowitz.—*Serum Therapia and Diphtheria.* "Wien. Klin. Rundsch.," No. 23, 1898.

THE author does not believe that the treatment with serum gives such good results as Behring and some other authors report; the reason is, that more patients are treated now as diphtheria, whilst sometimes there is only a slight inflammation of the throat, in which is found the Loeffler bacillus. On the whole Kassowitz is no friend of the serum therapia, and mentions the very good results in the treatment of diphtheria by old known methods.

R. Sachs.

Meunier, H., and Bertherand.—*Clinical and Bacteriological Study of a Case of Diphtheroid Angina with Leptothrix.* "Archives de Méd. des Enfants," October, 1898, p. 577.

CHILD three years old, with angina, having all appearances of diphtheria, local and general symptoms. The cultures contain no Loeffler's bacillus, but in abundance a variety of leptothrix, similar to *Leptothrix buccalis*. The angina had the ordinary evolution of diph-

theritic angina, but the injection of antidiphtheritic serum had no effect on the disease. The child was cured. *A. Cartaz.*

Meyer.—*The Spreading of Diphtheria.* "Corr. Bl. f. Schweiz. Aerzte," No. 14, 1898.

IN a family two children were taken ill with diphtheria and then removed into a hospital; the other members of the family still came in connection with other people. The author examined them and found one had a serious diphtheria of the pharynx, the other diphtheria of the nose, and the third diphtheria bacilli on the mucous membrane of the pharynx, without any other symptoms. The author concludes from this observation that it is very difficult to prevent diphtheria spreading. *R. Sachs.*

Pauthen.—*Treatment of Diphtheria.* "Med. Corresp. Bl. d. Wuertemb. Aerzte Dez.," No. 27, 1897.

THE author recommends highly the use of aqua chlori (recent preparation) as a very good remedy for diphtheria; every two hours a teaspoonful of a mixture containing 30-75 per cent. aqua chlori. Only 2 per cent. mortality. *R. Sachs.*

Warturvictor.—*Serum Therapia of Diphtheria.* "Corr. Bl. f. Schweiz. Aerzte," No. 17, 1898.

THE author recommends the heilserum as a very good remedy for prophylactic injections, and for cure of diphtheria. *R. Sachs.*

Woldbert, Albert (Philadelphia).—*Facts regarding the Death-rate of Diphtheria when based on the Mortality Statistics of a City.* "Medical News," September 29, 1898.

THE author points out that to ascertain the value of antitoxin in diphtheria, when based on the mortality records of a city, there are certain points to be remembered, amongst others that in certain years various diseases are more prevalent, therefore a series of years should be compared, and also that all diseases in certain years appear to be more fatal than in others. To instance this he gives the following tables of diphtheria, membranous croup, scarlet fever, typhoid, and small-pox, in Philadelphia from 1892-1897, obtained from the Bureau of Health of that city.

Number of cases of diphtheria, membranous croup, scarlet fever, and small-pox, from 1892 to 1897 :

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria	5051	3149	3159	3351	3191	5031
Membranous Croup Not obtainable		322	449	502	404	374
Scarlet Fever	6350	2849	1122	1195	1042	3553
Typhoid Fever	2304	2519	2357	2748	2489	2994
Small-pox	7	43	136	319	none	none

Number of deaths from diphtheria, membranous croup, scarlet fever, typhoid fever and small-pox from 1892 to 1897 :

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria	1435	916	1047	1020	862	1213
Membranous Croup } Reported as diphtheria {		243	349	329	293	243
Scarlet Fever	485	267	153	79	61	282
Typhoid Fever	440	456	370	469	402	401
Small-pox	none	5	13	45	none	none

Mortality from diphtheria, membranous croup, scarlet fever, typhoid fever, and small-pox, from 1892 to 1897 :

	1892.	1893.	1894.	1895.	1896.	1897.
Diphtheria	25.57	29.08	33.11	30.75	27.01	24.48
Membranous Croup ...	Unattainable	75.46	71.71	65.53	72.52	64.97
Scarlet Fever	7.63	9.37	13.63	6.61	5.85	7.93
Typhoid Fever	19.09	17.75	15.69	17.06	16.15	13.39
Small-pox	none	11.62	9.56	14.10	none	none

He believes, therefore, that it is yet too soon to come to an absolute conclusion as to the value of antitoxin, but that in many cases its administration is postponed until the chances of the recovery of the patient are very much lessened.

Sir George Reid.

MOUTH, Etc.

Bergeat, Dr. Hugo (Munich).—*Mucous Plaques on the Posterior Pharyngeal Wall*. "Münchener Medicinische Wochenschrift," No. 47, 1898.

Mucous plaques in this situation are apparently of rare occurrence. Schech and Leissl state that they have not observed them. Their existence has been noticed by Lewin. The author has seen two cases, and gives the following description of one. The pharynx showed five soft raised prominences running parallel and perpendicularly. They formed a series of eminences of unequal breadth, which extended from one side of the pharynx to the other. The appearance was further completed by a covering of frothy epithelial opacity on these projections. The opaque part showed flat perpendicular strips 2 to 3 mm. broad on the top of the mucous elevations, like the well-known light-gray colour of other mucous papules; it was more intense in the middle and lessened towards the edges. On simple inspection of the pharyngeal wall the upper end of the plaques could not be seen; with the pharyngeal mirror they were seen to become flat. Their lower ends were rounded off, the middle and smallest at the level of the edge of the epiglottis, the others a few millimetres lower down. There were other plaques on the tonsils and base of tongue. The patient complained of pain on swallowing and mucus collecting in his throat which had lasted for two months. They disappeared in a fortnight with local and general antisyphilitic treatment.

These syphilitic opacities may escape observation on casual examination owing to their resemblance to mucus passing downwards.

Guild.

Bernheim.—*Stomatitis Ulcerosa*. "Gesellsch. d. Aerzte in Zurich. fau.," No. 15, 1898.

THE author thinks it strange that the not infrequent localization of stomatitic ulcers on the tonsils is not mentioned in German literature; only French and Russian physicians give descriptions of it. If this disease only appears on the tonsils, it is very easy to make a mistake and diagnose diphtheria. But there are enough symptoms not to confound it with diphtheria: there is no fever; the illness progresses very slowly; and in most cases there is only one tonsil ulcerated. Another important point is the bacteriological examination.

R. Sachs.

Clerc, Le.—*Gouty Angina*. "Normandie Méd.," December 15, 1898.

THE author relates a typical case of gouty angina. The patient, thirty-six years old, subject to rheumatism and gout, has an angina, probably

caused by taking cold. In a day the dysphagia was considerable, the throat red, the tonsils enlarged; submaxillary adenitis. The next day, with the same state of the throat, laryngeal troubles by epiglottic œdema. The author believed tracheotomy probably urgent; during the night sudden disappearance of all symptoms. At the same moment attack of gouty arthritis on the great toe. The guttural manifestations were of a gouty nature. *A. Cartaz.*

Dubosc, George.—*Dermoid Tumours of the Soft Palate.* "Thèse de Paris," 1898.

THE dermoid cysts of the soft palate are very rare and have the same symptoms, the same structure, as the dermoid tumours of other parts.

The prognosis is generally not serious; yet they can be the origin of epitheliomatous degeneration, or the seat of functional grave disturbances, specially for these troubles, in young children.

The author relates some published cases and one unpublished; he suggests for a radical treatment complete eradication of the tumour.

A. Cartaz.

Keiper, G. F.—*Albuminuric Tonsillitis: Report of a Case of Spontaneous Hæmorrhage from the Left Tonsil.* "Laryngoscope," November, 1898.

IN this case examination of the throat revealed, at the upper portion of the left tonsil, an ulcer the size of a gold dollar, covered with an exudate somewhat of a diphtheritic appearance. This was easily removed, without causing any hæmorrhage. Locally, applications of nitrate of silver were made. A few days afterwards bleeding commenced at the site of ulceration. The hæmorrhage was moderate in amount, but proved very distressing to the patient. A mixture of equal parts of dry tannic acid and antipyrine was applied to the ulcerated part, and caused the hæmorrhage to cease immediately. Later on the same day hæmorrhage recurred, and was somewhat severe. The general condition of the patient became gradually worse, and was followed by death nine days after the author was called in.

The diagnosis made was albuminuric tonsillitis. *W. Milligan.*

Lartigan, August (Albany, N.Y.).—*Xerostomia, or Dry Mouth: Report of a Case.* "Medical News," October 29, 1898.

NOTES of a case occurring in a male, aged sixty-four. The patient complained of extreme dryness of the mouth, with a painful condition of the tongue; the lips were dry and fissured; the tongue dry, fissured, covered with grayish-brown sordes; mucous membrane of mouth dry, otherwise normal in appearance. The sense of smell was normal; there was a slight trace of albumin in the urine, but no sugar. The degree of the mouth-dryness varied considerably, being worse in hot weather. Previous to the onset of these symptoms, he had perspired freely on slight exertion; since then, however, it was with great difficulty any perspiration could be induced. A prolonged treatment with various drugs failed to relieve the symptoms in the least. *Sir George Reid.*

Nicolle and Hébert.—*The Acute Angina with Friedländer's Bacillus.* "Normandie Méd.," October 15, 1898.

N. and H. give the description of two varieties of angina, one chronic, with pseudo-membranous patches, firmly adherent to the mucous membrane, but without general symptoms; in these pseudo-membranes they find the Friedländer's bacillus.

The other form, less frequent, and similar to acute diphtheritic angina. The first appearance is pointed out by intense fever, 38° F., dysphagia, anorexia, depression, general state of intense inflammation; in the throat pseudo-membranes, not tenacious, especially on the tonsils, and the culture of these membranes contained pure Friedländer's bacillus.

After three or four days the general symptoms diminish, the temperature decreases and the membranes disappear. The diagnosis can only be ascertained by bacteriological examination. The treatment by antiseptic gargles and washings is sufficient. Four cases.

A. Cartaz.

Rousseau.—*The Innervation of the Muscles of the Soft Palate.* "Thèse de Paris," 1898.

A VERY interesting anatomical study of the innervation of muscles of the soft palate. The doctrine of the facial supply of muscles originated from the teaching of Langet was opposed to the physiological experimentation. Chauveau and Vulpian were unable to produce contraction of the palatal muscles by stimulation of the facial nerve. Two cases, clinically observed, showed clearly that the innervation of palatal muscles is not found in the facial nerve but in the vago-spinal.

A. Cartaz.

Treitel, Dr. (Berlin).—*The Existence and Importance of Chronic Tonsillar Abscess.* "Deutsche Medicinische Wochenschrift," No. 48, 1898.

THIS paper contains a general résumé of our knowledge of pyogenic infection from the tonsils. He describes in detail three cases where septic infection followed chronic tonsillar abscess. Only one of these was under his own observation. Infection takes place through the neighbouring tissue, and may extend down into the thorax, or general pyemia may be caused by absorption into the blood. All the cases ended fatally.

As the abscesses are small and cause no enlargement of the tonsils, their diagnosis is difficult. They show the importance in kryptogenetic pyemia of examining the interior as well as the surface of the tonsil. Whether infection may take place from chronically inflamed hypertrophied tonsils without abscess formation has not yet been proved.

Guild.

NOSE.

Avellis, Dr. Georg (Frankfurt).—*Tubercular Disease of the Upper Jaw, simulating Empyæma of the Antrum of Highmore in Children.* "Münchener Medicinische Wochenschrift," No. 45, 1898.

IN this paper Avellis criticises the cases described as empyæma of the antrum in infants (D'Arcy Power, "British Medical Journal," 1887; Rees, "London Medical Gazette," 1847; Spencer Watson, "Diseases of the Nose," p. 167). Midalkovic's "Handbook of Laryngology," vol. iii., p. 78, states that the antrum at the fourth month is $\frac{1}{2}$ mm. deep, and only exists theoretically in the first month. Only after eruption of the milk-teeth does the antrum extend downwards into the alveolar process. Thus, according to development, an empyæma at this age is hardly to be thought of. He considers these cases to be tubercular

disease of the medullary tissue in the nasal and palatine process of the upper jaw.

Caries in this region has been described by different surgeons (Carl, Haeter, Gurlt). A sinus always occurs beneath the lower eyelid when caries begins in the infra-orbital process. Thickening of the palatine process is caused by caries in its medulla. Sequester formation, denudation of the bone, chronic suppuration, granulation growth, periostatic distension of the bone, the slow healing with separation of sequestra, point definitely to tubercular disease. These symptoms are literally found in the cases described as empyæma. It has not yet been proved that the antrum has been affected, and it could only be described as tubercular disease of the antrum. Such disease in the adult is extremely rare. *Guild.*

Carriere, Max.—*Living Foreign Body with Abscess of the Nasal Septum.*
"Gaz. Hebdomad. de Méd., Paris," November 24, 1898.

A GIRL, fifteen years of age, who was subject to frequent attacks of coryza, and had for some months nasal obstruction without pain or troubles. C. finds a bilateral abscess of the septum, and in the pus, escaping after incision, the larva of a fly which cannot be precisely determined. Rapid cure. *A. Cartaz.*

Cathelin.—*A Case of Ozæna cured by the Antidiphtheritic Serum.*
"Echo Méd. du Nord," November 13, 1898.

A MALE, twenty years of age, had for six months a nasal discharge with crusts and bad odour. The mucous membrane not atrophic; treatment by vigorous douching with carbolic solution, and three times a week an injection of five grammes of antidiphtheritic serum. After two months only, one injection a week, but with 10 grammes of serum. Six months after the symptoms are relieved; no odour, no crusts, no discharge; the patient seems to be cured. *A. Cartaz.*

Gilbert, A.—*Tertiary Syphilis of the Sinus and its Complications.*
"Thèse de Paris," 1898.

TERTIARY manifestations of syphilis in the sinus are nearly always secondary to gummatous otitis of the nose, the caries or necrosis extending from place to place. There are two clinical varieties, differing according to the direction of erosion towards the orbitary or cerebral side. The prognosis is quite different. The sinusitis with cerebral complications resembles, in gravity, cerebral tertiary syphilis. The accidents are very serious, rapid, and death is frequently the sequel of that disease by thrombosis of cavernous sinus, meningitis, or meningo-encephalitis. The treatment must be intensive with mercurial injections and large doses of iodide. *A. Cartaz.*

Halasz, Dr. Heinrich (Budapest).—*Serous Disease of the Antrum of Highmore.* "Wiener Klinische Rundschau," No. 46, 1898.

So long as the communication between the antrum and nose is intact the sinus walls are moistened with secretion; accumulation is prevented, as part is absorbed and part is evaporated by the entrance of air. When occlusion occurs the air is absorbed by the bloodvessels, and the secretion increases in greater quantity than it can be removed. The result is that the secretion decomposes, and the mucous membrane is stimulated to increased secretion.

Serous disease was first discovered by Noltenius, in cases suspicious of empyema, with pain in the maxilla, root of the nose, and supraorbital region. Exploratory puncture revealed a serous fluid and the symptoms

completely disappeared. The fluid was of a clear, transparent yellow colour; it quickly coagulated, and only occasionally contained a few shreds of mucus. The disease is usually unilateral. Where the symptoms of empyema or serous disease are not conclusive, exploratory puncture is certain. In many cases of empyema there is only occasionally hemicrania, nasal discharge, fœtor or bad taste in the mouth. In serous disease pain, often indefinite, sometimes localized in the supraorbital region, is complained of; frequently nasal discharge occurs, lasts a short time, and then vanishes without becoming thick or purulent. The patients frequently complain of nasal obstruction, and if there is no hypertrophic rhinitis, or if the feeling of obstruction persists, after free application of the cautery, exploratory puncture is indicated.

If the contents of the sinus are entirely serous, simple removal is sufficient to relieve the symptoms. He prefers Noltenius's trocar to Krause's. If there are shreds of pus, or if the secretion is purulent, he syringes with sterilized water or iodine trichlorat solution. He has seen ten cases in which removal of the secretion from the sinus was followed by cure, and gives a short account of five cases. *Guild.*

Jongs, R.—*Ocular Complications of Frontal Sinusitis.* "Presse Médicale," November 30, 1898.

J. RELATES the case of a man, fifty-two years old, complaining of facial neuralgia and visual troubles with vertigo. The examination of the eye shows hypertrophic astigmatism, but no perturbation of the unioocular sight, no alteration of the choroido-retinic membrane, and only an occasional crossed diplopia.

As the cause of that muscular insufficiency the author finds chronic coryza with frontal sinusitis and bilateral maxillary empyema. Operation on the pansinusitis, cure and disappearance of all ocular symptoms. *A. Cartaz.*

Lindt, W.—*Diagnosis and Therapia of Chronic Suppurations of the Accessory Cavities of the Nose.* "Corr. Bl. f. Schweizer Aerzte," No. 45, 1898.

THE author reports on the different methods of diagnosis and therapia of suppurations of the accessory cavities of the nose. Concerning the examination of the frontal sinus with the probe, the author says that it is very difficult to examine the frontal sinus in healthy people, but in fourteen cases of certain suppuration he was able to examine the sinus with a probe in every case. After this observation of the author, I suppose that these fourteen cases must have been already very much advanced. Then I think the conclusion of the article is worth mention. The author considers it a pity that one cannot say the same of the treatment of chronic suppurations of the accessory cavities of the nose as he wrote some time ago about the cure of chronic suppurations of the middle ear: "That every (?) non-cachectic patient suffering from otorrhœa chronica can be cured through operation (?); only incomplete technic or after-treatment gives a bad result"!! (Perhaps, in Berne, chronic suppurations of the ear are quite different from those in other parts of the world.) *R. Sachs.*

Lucas, R.—*Adenoid Vegetations in Relation with Ear Diseases.* "Thèse de Paris," 1898.

THE adenoid vegetations produce by a simple presence an inflammatory state of the pharynx, and that inflammation has the greatest facilities to

spread in the ear, nose, and other cavities. They are the cause of obstruction of the Eustachian tube, and by difference of atmospheric pressure in the ear give catarrhal otitis.

The ear diseases originated from adenoids are of two forms : inflammatory and mechanical. These otites are very serious in young children, determining the deaf-mutism. It is necessary to remove these vegetations in the early stage of life.

A. Cartaz.

Lucius, Charles.—*Diagnosis of Maxillary Suppurative Sinusitis.* "Thèse de Paris," 1898.

THE author reviews the principal symptoms of empyema of the antrum, indicating that no other than exploratory puncture is pathognomonic. He views trans-illuminating favourably.

The prognosis depends on the nature of the suppuration, on the duration and continuity of the escape of pus, of the presence or not of complications and other sinusitis. According to the special signs, the treatment will be alveolar perforation with washings or immediate curetting by the canine opening.

A. Cartaz.

Mulhall, J. C.—*An Improved Tube for Drainage of the Maxillary Sinus.* "Laryngoscope," November, 1898.

THE tube has a diameter of $\frac{1}{4}$ of an inch, and the antral end is carefully bevelled off. A movable lid is attached to the oral end, which has the great advantage of preventing foreign bodies entering the antrum, and, if the tube be filled with sterilized cotton or medicated gauze, of preventing infection from the mouth. The description is accompanied by four figures in the text.

W. Milligan.

Packard.—*Reflex Disturbances of Nasal Origin.* "Philadelphia Medical Journal," July 16, 1898.

THE author reports a case of reflex amblyopia, resulting from removal of a small piece of the middle turbinated bone. A great many writers are quoted in this paper.

B. T. Baron.

Poisson, L.—*Fistula of the Frontal Sinus.* "Gaz. Méd. de Nantes," October 24, 1898.

CLINICAL lectures on a case of fistula of frontal sinus in a woman sixty-four years old, having had frequent facial erysipelas. Since eight years frontal sinusitis, with pains, headache, purulent discharge by the nose; six months ago orbitary abscess and consequently fistula. Cure by curetting of the sinus and drainage by the nose.

A. Cartaz.

Solis-Cohen, S.—*A Preliminary Note on the Treatment of Hay Fever with Suprarenal Substance, with a Report of Personal Experience.* "Philadelphia Medical Journal," August 13, 1898.

THE attacks are not hysteric nor hypnotic, but are due to congenital weakness of vaso-motor control. They are not due to lithæmia. The usual remedies have been used with some degree of success, but suprarenal extract in tabloid form has been of the greatest value. One 5-gramme tabloid is taken five times a day; sometimes, if the attack of sneezing was severe, two were taken at a time, and one was always taken at bedtime, and thus "a sneezeless, coryzaless night" was insured.

The effect is attributed to the power possessed by suprarenal preparations to raise blood-pressure by increasing the vascular tone, and so contraction of the nasal mucous membrane is brought about.

B. T. Baron.

Wells.—*The Pathogenesis of the Nasal Reflex Neuroses.* "Philadelphia Medical Journal," August 20, 1898.

In all cases a pronounced morbid condition of the nervous system is present. Dealing with asthma, attention is drawn to the occurrence of eosinophilia in this disease. Müller and Gollasch first noted the presence of abundant eosinophilic leucocytes in the sputum of asthmatics during a paroxysm; and Gabritschewski found that there was an increase of eosinophiles in the blood at the same time. Eosinophiles are increased in migraine, epilepsy, angina, neuralgia, convulsive disturbances and gastric crises, chorea and exophthalmic goitre. From this it is argued that there is a relationship between the presence of these cells and nasal reflex disturbances.

They are also influenced by sexual disturbances—*e.g.*, they are increased at menstrual epochs, before coition, during lactation, in sexual neurasthenia, puerperal mania, and at the climacteric; also in inflammation and disease of the genitalia—*e.g.*, cysts of the ovary. Arguing from the fact that there is some relationship between nasal reflexes and sexual disturbance, it is contended that this accompaniment of eosinophilia and alterations of the sexual system is because of the nasal reflex neurosis thereby induced.

Eosinophiles are frequently increased in certain skin-diseases, and after the use of pilocarpin, which produces hyperæmia of the skin. Attention is drawn to the occurrence of coryza and urticaria, and of nettle-rash and milk-rash, in association with some of the nasal neuroses.

Eosinophilia is also found in the uric acid diathesis, and this acid is found quite constantly in migraine and epilepsy.

According to Neusser, these cells, which are distinguished by the presence of coarse acid staining granules which take the eosin stain, are directly under the influence of the sympathetic nervous system, and are increased when there is irritation of the sympathetic, as in nasal reflex neurosis.

For the production of this reflex we must not only have local nasal trouble, but a morbid state of the sympathetic centres, which consists of a hyperkinesia of the vaso-motor ganglia, and eosinophilia is thus set up.

B. T. Baron.

LARYNX.

Ausset, E.—*Diphtheritic Angina with Laryngitis; Intubation for Seven Days; Death.*—"Echo Médical du Nord," November, 27, 1898.

CHILD, two years old, admitted in the hospital for measles; at moment of convalescence diphtheritic angina and laryngitis. Intubation and injection of antitoxic serum; immediate cyanosis and asphyxia when the tube was removed. The pseudo-membrane came away and the diphtheria was cured, but the laryngeal spasm would not permit the removal of the tube. The author decided to make a tracheotomy; the operation was prepared, when suddenly the child was seized by a violent glottic spasm and death followed in a few seconds.

At the necropsic examination ulcers of sub-glottic mucous membrane were found on the site of the inferior part of the tube. A. Cartaz.

Chauveau.—*Ozæna Nasal and Tracheal in a Child Fifty-one Months old ; Death.* “*Journal de Clinique et Thérapeut. Infantile*,” October 6, 1898.

CHILD, four years and three months old, had for some months difficulty of breathing, stridor, and laryngeal wheezing. When the child expectorated some crusts, the laryngeal troubles disappeared for some days. C. found nasal ozæna and laryngo-tracheal complications; crust adherent to the tracheal mucous membrane. The mother and an aunt had atrophic rhinitis. Sudden death during sleep, probably by glottic spasm.
A. Cartaz.

Gaudier, H.—*Endolaryngeal Treatment of Polypus of the Larynx.* “*Echo Médical du Nord*,” October 23, 1898.

G. RELATES fourteen cases of laryngeal polypus (fibromatous, papillomatous tumours, one case of myxoma) and gives the technique of that operation. He uses the forceps of Dundas Grant, and, when the tumour is originated in the anterior part, the Turk's or Fauvel's instruments.
A. Cartaz.

Price-Brown.—*Pharyngeal Mycosis.* “*Canadian Pract.*,” April, 1898.

THE fungus, according to Price-Brown, may be found in milk, urine, and watery solutions after exposure to air for lengthy periods. Lugol's solution demonstrates the presence of starch. The fungus may either be superficial or inserted wedge-like into the epithelium; in the latter case the microscope fails to demonstrate the rod-like cells. Four cases were narrated, and in one it was queried as to whether the patient's occupation (polishing cow-horns, often a malodorous task) was directly responsible for the affection. The symptoms were detailed as far as there were any, and the author finally agrees with other authorities that the galvano-cautery is the best agent in their destruction.

REVIEWS.

Bacon, Gorham, A.B., M.D., Prof. of Otology in Cornell University Medical College (New York), Aural Surgeon New York Eye and Ear Infirmary.—*A Manual of Otology.* With an Introductory Chapter by CLARENCE JOHN BLAKE, M.D., Professor of Otology in Harvard University, with 10 illustrations and a coloured plate. Published by Henry Kimpton, London. Pp. 398.

DR. GORHAM BACON's casual contributions to aural surgery are well known to our readers through our abstracts of them. A work on otology, coming from his pen, is therefore welcomed with considerable expectations. The volume at present before us is no disappointment, and may be recommended as a good average handbook which, in view of its small size, contains most of what the student or general practitioner reasonably requires. The difficulty of distinguishing what is of practical clinical value from what is rather of speculative or theoretical interest has been very well met. A book should not be made short by the omission of the little details and explanations which take

up much space, but which help the student to understand the subject in a short time. Hence, even the first elements of any branch of medicine are often most easily learned from a large and exhaustive treatise. In our opinion, therefore, a small book starts with a serious handicap, and is most difficult to write satisfactorily. Dr. Gorham Bacon has overcome the difficulty to a remarkable degree.

A large portion of the book is very properly devoted to the consideration of suppurative inflammation of the middle ear, its complications and sequelæ. The affections of the internal auditory or sound-perceiving apparatus receive rather scant notice. The work is pretty freely illustrated, but the drawings are chiefly taken from Gray's Anatomy and from Politzer's text-book. The original ones are mainly photographic reproductions of preparations, and are rather indistinct. A few of the stereotyped common otoscopic pictures of the indrawn membrane, the various types of perforation and cicatrices, and so forth, would have been useful additions.

Among the well-described diseases of the external meatus, we are glad to find seborrhœa, which is often overlooked both by practitioners and writers of books. We are surprised not to find that important condition, desquamative external otitis, known also as *keratosis obturans*, or external cholesteatoma, which is so apt to be mistaken for simple cerumen, with the most unhappy results, if the treatment recommended for cerumen—soda drops, etc.—is carried out. In the account of the examination of the ear, no mention is made of the valuable and well-established fact that in infants and young children the auricle should not be drawn upwards, but downwards. The book is written in a good, readable style, and, as Dr. Clarence Blake states in the thoughtful and suggestive introduction which he has contributed, the work will be found to bring that stimulation to further study which is one of the purposes of all teaching.

Dundas Grant.

Campbell, Harry, M.D., B.S. Lond.—*Respiratory Exercises in the Treatment of Disease.* Published by Baillière, Tindall and Cox, London, 1898. Pp. 196.

THIS observant and thoughtful physician deserves our gratitude for the study of the interesting subject described in the title of his work. He commences with a consideration of the mechanism of respiration, as including the elasticity of the lungs, functions of the abdominal muscles, elasticity of the thoracic cage, factors determining the mean size of the chest, the mobility of the thoracic cage, the respiratory forces and the modes in which the thorax is enlarged. Among the secondary effects of the respiratory movements are studied their influence on the circulation of blood and of lymph. These are treated still more fully as regards the normal modifications of the respiratory movements, such as talking, shouting, singing, laughing, coughing, crying and sighing. Dr. Campbell's views with regard to the physiological advantage to the individual of making joyful noises are well known, or, in fact, noises of any kind whatever. The chapters which are, however, of the greatest interest to our readers are those upon the modes in which the thorax is enlarged (Chap. IX.), breathing in singers (Chap. X.), and the various kinds of breathing exercises as detailed in Chap. XX. Dr. Campbell holds that it is possible to dissociate completely costal from abdominal breathing, for though contraction of the diaphragm tends to raise the lower ribs, it is possible to check all costal movement during diaphragmatic descent. Though convinced

that the greatest amount of distension of the chest can be obtained by what he calls "pancostal" breathing, in which the clavicles are raised, and with them all the ribs, on the whole he seems to be a strong advocate for the pure abdominal method. It would have been of interest to have had a more definite decision on this point, but (p. 69) Dr. Campbell says: "I must at once confess that I do not at present see my way to recommend very specially any one method to the exclusion of the others." He enumerates the various methods as: (1) Clavicular; (2) pure lower costal; (3) lower costo-abdominal; (4) pure abdominal; (5) abdomino-costal. The difference between three and five depends on the greater prominence of the factors first mentioned. With regard to the divergences in opinion, the footnote, p. 64, to the following effect is very significant: "Nothing better shows the obscurity which prevails regarding the curious modes of breathing for singers than Joal's observations on clavicular breathing." Dr. Campbell considers that if pronounced clavicular breathing is ever justifiable, it should certainly only be employed on rare occasions, and as an extension of the more usual form of breathing; but he has no objection to a modified clavicular breathing, namely, that in which there is a moderate upward and forward movement of the inner ends of the clavicles, as recommended by Cathcart. This increases the upper opening of the thorax, and favours the expansion of the upper portions of the chest, so that a large resonating chamber is produced at a comparatively short distance from the vibrating mechanism. We take it that the injunction to the singer would be to employ the high-arched chest recommended by Curtis, but to avoid elevation of the shoulders. As regards other methods, although the "pancostal" gives the greatest volume of air, Dr. Campbell very shrewdly observes that the singer is not required to distend his chest to the utmost. In comparing the lower costo-abdominal with the abdominal, he observes that the latter is more easy and so far preferable. Over and above a large quantity of air and ease in manipulation of it comes the question of the regulation of the outgoing blast. He quotes Cathcart to the effect that this takes place through the mutual antagonism between the respiratory muscles and the false vocal cords. This, we presume, is his explanation of the "lutte vocale" of Mandl (which appears in the index of Mandl's work under the singular misprint of "luette vocale"), but the "lutte vocale" of Mandl is, we understand, and hold with Dr. Campbell, to be produced by a well-balanced antagonism between the expiratory and inspiratory muscles. From the physiological point of view there seems no doubt that it is undesirable to avoid religiously the distension of the upper part of the lungs in which disease is so very apt to find its seat. The artificial requirements of artistic voice production would seem to call for the attentive practice of the abdominal and lower costal methods, a combination of the high-arched chest recommended by Curtis and Cathcart along with the lower costo-abdominal of Brown and Behnke, and possibly a retraction of the lower half of the abdomen so as to meet all the requirements of the case. How these are to be modified in individual instances must depend a good deal on the judgment of the voice trainer, whose business it ought to be to find out in which direction the pupil's personal tendency leads him to err, and much good would be effected if catholic and unbiassed consideration of the points at issue were given by all who undertake to train the user of the voice. In this they would be greatly helped by a study of Dr. Campbell's work. *Dundas Grant.*

Martindale (Drs. Harvey and Davidson).—*Syllabus of Materia Medica.*

H. K. Lewis, 136, Gower Street, London. Tenth edition. Price 1s.

A USEFUL and handy little pocket remembrancer of all the drugs of the pharmacopœia, with their doses in the metric system as well as in our own unwieldy one. The primary articles are printed in capitals, and their relative values are expressed by a figure. These classes are four, and the following examples show the use of the idea: 1. Opium; 2. Cusso; 3. Tragacanth; 4. Prunum. We recommend this booklet to all as the handiest we know.

Scheppegrell.—*Electricity in Diseases of the Nose, Throat, and Ear.*
(London: G. F. Putnam's Sons.)

WE have much pleasure in calling attention to this excellent work, which treats of the special use of electricity in affections of the nose, throat, and ear. Dr. Scheppegrell refers first of all to general principles, and in a few succeeding chapters the different methods of generating the current receive due attention. The other divisions of the work deal with instrument after instrument, whether it be for lighting, cautery, electrolysis, or X rays, all clearly and fully described. Judged from the standpoint of compilation alone, the work is exceedingly valuable, but the author's great experience is also detailed. Considering the frequent and extensive use of electricity in our department, the profession is indebted to Dr. Scheppegrell for placing within its reach a compact and clearly written guide.

While not wishing to detract from the general value of the work, we may point out some minor details which suggest to us the advisability of a little revision in future editions. On p. 13 the author refers to the Toepler machine as a frictional, not an influence, machine. Again, on p. 26, Dr. Scheppegrell, speaking of storage-cells, says: "Their low tension makes them inapplicable where a current of considerable voltage is required, as in galvanism, electrolysis, and cataphoresis." A secondary battery can be made as small as any other battery and still retain its efficiency. Further, few primary batteries have as high an E.M.F. as a storage battery per cell, consequently, as a rule, fewer storage-cells are necessary to give the requisite voltage. The capacity of a good storage-cell will compare favourably, weight for weight, with any primary on the market; and in point of discharge rate, weight for weight, they are far ahead of any primary battery.

Dr. Scheppegrell wisely warns practitioners about the danger of high potential currents resulting in a shock which might be dangerous in character. To prevent errors, it is necessary that readers should clearly understand all electrical terms used. Dr. Scheppegrell will not misunderstand us, therefore, when we say that on this side of the Atlantic such a term as "Edison current" is not easily understood. When the author speaks of a constant potential current, he is at once clear and precise, and can be easily understood by any physicist. Reading the last paragraph on p. 24, the reader might be inclined to think that Dr. Scheppegrell considers it necessary for the fine wire in an induction-coil or transformer to be wound outside the thick wire coil; and on p. 55, in the second paragraph, we are told that the intensity of the induced current depends on the length of the wires of the secondary coil, the number of turns or convolutions not being taken into consideration.

We can confidently recommend Dr. Scheppegrell's work to the profession, and congratulate him upon its appearance.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

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**A CASE OF SQUAMOUS-CELLED CARCINOMA FOLLOWING A
CHRONIC SUPPURATIVE OTITIS MEDIA.**

BY H. BETHAM ROBINSON, M.S. LOND., F.R.C.S.,

Assistant Surgeon to and Surgeon for Diseases of the Throat, St. Thomas's Hospital.

ELIZABETH B——, aged forty-six, came under my care in St. Thomas's Hospital on April 27, 1898.

She gave the following history: About twenty-six years before she first noticed discharge from the right ear. This discharge, which was thin and yellowish, continued about the same until four years ago, when it greatly increased, being accompanied by deafness, noises in the head, and shooting pains. There was no definite history to show the cause of the ear lesion, except that she had had attacks of tonsillitis, and possibly associated pharyngitis. About four months ago the discharge increased very much in quantity, became thick in consistency, and of a greenish-yellow colour, and very offensive. She had now almost continued headache over the right side. Three weeks before she went for treatment to the Central Throat Hospital, as she noticed an inflamed and painful swelling behind the ear. This was opened, and pus set free, and as it continued she came as an out-patient to St. Thomas's, and was recommended for admission.

There was still a great deal of offensive yellow discharge coming from the meatus, which was thickened and inflamed; its lumen was almost completely choked with what appeared to be granula-

tion polypi, which were very soft, and bled readily. Over the mastoid there were the remains of the previous incision, the surrounding tissues being inflamed and indurated. There was great tenderness over the whole mastoid process, but especially over its base. There was some weakness of face muscles. The temperature was raised about 1°.

On April 30 a curved incision was made behind the pinna, which was drawn well forward. Some fragments of necrosed bone from the posterior wall of the meatus, with granulation tissue, were first removed. The outer surface of the mastoid had its periosteum raised by the pus, and was softened. A trephine opening was made into the antrum, when it was found to be filled with very soft granulation tissue mixed with nodules of necrosed bone. On scraping this away, the whole mastoid appeared softened and excavated; the communication with the attic was very free, and the whole middle ear was filled with the same granulation tissue. The ossicles and membrane had disappeared. The inner wall of the tympanum was so softened that great care had to be exercised not to open up the internal ear. The cavity was washed out with weak perchloride lotion, and tightly packed with iodoform gauze, the end of the latter coming out behind the pinna, which was only stitched above and below. After the operation the right facial paralysis was a little increased. The disease seemed undoubtedly an extensive tuberculous lesion of the mastoid and tympanic cavity.

After the operation, with daily syringing with boracic lotion, the discharge was much lessened, and not so offensive. Although the upper part of the wound behind the pinna showed signs of healing, the lower opening began to sprout round the margin, so that the drain was inserted with difficulty. On May 19 polypi again filled the meatus; these were removed, as they blocked in the discharge, with the result that there was more free drainage. At the end of the month the swelling and infiltration over the mastoid were much more marked, the edges of the wound being distinctly everted. The meatus was again blocked with granulations, and there was suspicious fulness in front of the ear below the zygoma. The pain over the side of the head was rather severe.

A piece was removed over the mastoid for histological examination, and it proved to be a "squamous-celled" carcinoma.

No further operation was advised, and she left the hospital on June 11. The growth about the mastoid wound was much harder and infiltrating parts around, being in places definitely nodular. At the upper part of the wound a sinus had opened, and a probe passed in freely entered the tympanic cavity and meatus. There

was now undoubted fulness in the parotid region, spreading up over the zygoma, and some interference with the movement of the jaw. The facial paralysis was much more in evidence. There was, however, no glandular involvement in the neck.

She attended as an out-patient with increasing growth for about a month, since which date I have not seen her.

From a consideration of the literature of the subject, such growths appear to be extremely rare. The histology of the tumour suggests its origin from the external meatus, and no doubt it arose from the inner part of this passage. It is an accepted pathological dictum that chronic irritation induces epithelial proliferation, and it seems only in the fitness of things that such a sequel should be rarely met with where there has been a chronic discharge from the middle ear.

PARALYSIS OF THE LARYNX—STENOSIS OF THE ŒSOPHAGUS

(*Contribution to the Diagnostic Signification of Röntgen's Rays*),

BY DR. JOHN SENDZIAK, of Warsaw (Poland).

M——, fifty-five years of age, a farmer, consulted me on March 23, 1898, complaining of difficulty in swallowing, especially in the case of hard food, the trouble having lasted three months. Of late he had become greatly emaciated. Formerly he was always healthy, but given to the abuse of alcohol to a high degree. No syphilis. The father died, as it seems, of asthma.

On examination I found the following: Constitution strong (*homo robustus*), nutrition extremely poor. The examination of the interior organs does not present any more distinct changes. The same in the superior part of the respiratory tract; nose, throat, and larynx free from any distinct changes.

The examination with the bougie showed in the superior one-third of the œsophagus—*i.e.*, opposite the bifurcation of the wind-pipe—a slight degree of tightening (stenosis). Assuming the nature of the stenosis to be cancerous, I applied the bougie to the œsophagus several times, the patient feeling better on each occasion. In spite of it, he soon escaped from my observation.

It was only after three months that he again came to me. On examination I found a considerable deterioration of the general, as well as local, condition. The patient related that, listening to the advice of those around him, he consulted one of the general

physicians, who, together with a surgeon, carried on the treatment for several weeks, also consisting especially in sounding. Then on account of the gradual change for the worse, he was advised to undergo an operation, to which he, however, did not agree, and came again to me. As I have mentioned, on the second examination I found great deterioration, especially of the general state, the patient being strikingly emaciated. On examination of the larynx with the mirror, I found the symptom which was formerly absent, *i.e.*, paralysis of the right vocal cord, which was in the phonatory position (so-called "Posticus Lähmung"—paralysis postici).

Besides the stenosis of the superior one-third of the œsophagus formerly observed, I found on examination with the sound a considerable degree of obstruction in the inferior part.

From what could the paralysis of the larynx depend? In view of the affection of the œsophagus by the cancerous process, which could, as it seems, not be doubted, the most probable supposition was complication by cancerously degenerated glands.

It is known that in the neck both recurrent nerves run parallel to the mass of the glands (ganglions peri-tracheo-laryngiens—Genguenheim et Leval-Piquechef). In the thoracic cavity the recurrent nerves, especially the left one, meet with the group of other glands (ganglions peri-tracheo-bronchiques—Baréty); finally, here and there there are dispersed separate glands in the course of the recurrent nerve (Stacquat).

Although I attributed the compression of the recurrent nerve to the above-mentioned gland, the left recurrent, however, being the oftener affected in cancer of the œsophagus as well as in enlargement of glands, I decided in this case to try the Röntgen rays, which, as it seems to me, at least with us in Poland, were not hitherto applied in such a case. (Dr. Edw. Tréliniski and I showed, in the meeting of the Medical Society, the results of this method in aneurisms; Dr. Putawski in tumours of the mediastinum; finally, Dr. Edw. Tréliniski also in tuberculosis of the lungs.)

For this purpose Dr. Brunner in my presence applied X-rays with favourable results. The heart, aorta, lungs, etc., did not present any changes; in the right side of the thoracic cavity, however, at the level of the aorta, on translumination in the front, as well as behind, the glands were distinctly seen in the shape of irregular dark spots; the left side of the thorax did not present any changes.

If in the above case the diagnostic signification of Röntgen's method, in view of the existence of cancerous process of the œsophagus, in which the paralyzes of the larynx are not among

the great rarities, was not demonstrative, but rather confirmatory, so in the paralyses of the larynx resulting from compression by pathologically changed glands alone, which cannot be discovered by means of physical methods, Röntgen rays may have the greatest importance.

In the first place I must note here the affection of the glands of the neck, or, it may be, of the thorax, in syphilis; further, in tuberculosis (in cases of absence or slightness of changes in the pulmonary tissues); finally, in leukæmia and pseudo-leukæmia (here belongs one case of Lermoyez,* in which the cadaveric position of the left vocal cord was the only symptom of pseudo-leukæmia for several months).

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary Meeting, January 6. 1899.

HENRY T. BUTLIN, Esq., F.R.C.S., *President, in the chair.*

The following Report of Council was read and adopted:

The Council are pleased to report the continued prosperity of the Society, as evinced by the increase in the number of its members and the enthusiasm thrown into the work of the ordinary members.

Thirteen gentlemen have been elected ordinary members during the past year, which, including the nine honorary members, brings the total membership of the Society to 135.

The meetings of the Society have been well attended, the average of thirty-five attendances for the ordinary meetings during the past year being the highest hitherto recorded.

Chronic Nodular Laryngitis in a Boy aged Fifteen. Shown by Dr. ST. CLAIR THOMSON.

This case was shown as illustrative of the nodular laryngitis of children described by Moure of Bordeaux. This latter observer, however, had attributed the condition to the straining of the voice,

* "Les Causes des Paralyses récurrentielles" ("Bull. et Mem. de la Soc. Franç. de Lar. et de Rhin.," vol. xiii., I., p. 288).

especially in children with treble voices who were compelled to sing seconds. In the present case there was no such history of voice-abuse. He was brought with a history of a few months' hoarseness, but on further inquiry it appeared that he had been more or less hoarse since an attack of croup at the age of three or four. On examination it would be seen that there was a rounded thickening at the junction of the middle and anterior thirds of both vocal cords—the usual site of singers' nodules—but in the present instance, instead of being situated on the free margin, the nodules were on the upper surfaces.

The cords were generally injected. Some adenoids had been removed in October last without relief, and since then he had been treated with insufflations of alum, sprays of iron, lactic acid, etc., without relief. Rest to the voice has been prescribed.

Dr. DE HAVILLAND HALL thought that at the present time Dr. St. Clair Thomson would probably feel inclined to alter the nomenclature of the case, as the appearances were those of a chronic laryngitis, the nodules not being distinct. The case, in Dr. Hall's opinion, resembled a chronic laryngitis due to nasal obstruction.

Two Cases of Chronic Laryngitis, entirely limited to the Right Vocal Cord, and probably Tubercular in Character. Shown by Dr. ST. CLAIR THOMSON.

One case was that of a young woman who had been hoarse for more than a year; the other was that of a man who had been hoarse for the last nine months. He had at one time lost flesh, but had latterly put on weight. In neither case were there any definite physical signs in the lungs, and there was no expectoration to examine. The temperature was not raised. In each case there was a red fleshy condition of the right vocal cord, and it was interesting to note, as confirmatory of Dr. Jobson Horne's pathological researches on this subject, that the free edge of the cord was but slightly affected, while the granulations on the cord appear to originate from the mouth of the ventricle of Morgagni. The diagnosis was arrived at by a process of exclusion. Both cases were decidedly improving under general treatment, although they lived in London.

Dr. HALL thought that the evidence in favour of a tuberculous laryngitis was not decisive in Dr. St. Clair Thomson's second case.

Dr. CLIFFORD BEALE observed that the limitation of the affection to one or the other side of the larynx must always be a strong point in diagnosis in cases of doubtful tubercular infiltration where evidence of other specific diseases was wanting.

Dr. HERBERT TILLEY agreed with Dr. Thomson in looking upon these cases as tubercular. The speaker had shown at a former meeting a man who had tubercular ulceration of the tip of the epiglottis which had been almost completely cured by lactic acid applications and curetting. He had had him under observation nearly twelve months, and when he saw him two days ago he noted a marked granular congestion of the left vocal cord and vocal process, the rest of the larynx being normal. There was well-marked tubercular mischief in both pulmonary apices.

Dr. ST. CLAIR THOMSON, in reply, said he had been led to the diagnosis of tuberculosis in these cases by the one-sidedness of the affection, the absence of symptoms of new growths or syphilis, the chronic nature of the complaint, and the situation and appearance of the fleshy granulations. It was hardly likely that a simple chronic catarrh would remain limited to one vocal cord for a whole year, and that it would not disappear completely under vocal rest such as these patients had tried. Recovery—and these two cases were improving—was not necessarily opposed to this view, for tuberculosis of the larynx, as of other parts, got well, and in some instances even without treatment.

Sir FELIX SEMON said that whilst fully recognising the diagnostic importance of isolated congestion of one vocal cord—a point, in fact, which he had always emphasized himself—he should not go so far as to make a definite diagnosis from this appearance alone. In his opinion the discovery of such an isolated congestion ought to draw the observer's attention to the possibilities of tuberculosis, malignant disease, and syphilis, and no doubt in the majority of cases one of these affections would be found later to develop in the congested parts; on the other hand, however, he looked back personally upon a small but definite number in which such an isolated congestion was not followed by any further untoward developments. He should not, therefore, pin his faith upon the discovery of the appearance named alone, but simply look upon it as a valuable warning signal.

Case of Cure of Chronic Empyema of the Maxillary Antrum by Radical Operation. Dr. SCANES SPICER showed this patient, operated on by him six weeks ago.

A. B——, aged twenty-three, eight years ago had attacks of pain and recurrent abscesses for two years over region of left upper first molar. Six years ago this tooth was removed, and there has remained a fistulous track high up on anterior wall of gum, discharging fœtid pus on and off ever since. In October, 1898,

increase of swelling, pain, and fœtor in left nostril. No loose bone could be detected with a probe. Patient, actively engaged in business, pressed for an immediate cure. Exploration was advised under an anæsthetic, and permission obtained to remove any sequestrum, or to deal with the antrum as might be deemed necessary.

On November 29 this was done. A large gap was found in the anterior bony wall of the superior maxilla of irregular shape, and in the membranous structure filling this gap were small, loose, thin, bare scales of bone. The probe and finger easily passed into the antral cavity, which was filled with thick, inspissated pus, cheesy débris, also polypi and granulation tissue, with indescribable fœtor. The cavity was thoroughly cleaned out, and the naso-antral bony wall found to be similarly absorbed; the finger passed into the antrum with the slightest pressure met the finger passed into the corresponding nasal fossa, breaking through the membranous portion in the inferior meatus region. The opening was enlarged with finger and curette so as to admit a large drainage-tube, which was cut off near the nostril, and the tube secured by silk threads tied behind each ear. The muco-antral opening was sutured (apparently not sufficiently so, as this incision has not yet healed).

The patient's doctor carried out all subsequent irrigation and drainage by this nasal tube, and after its removal in five days through the naso-antral opening.

Patient reports there has been no pus or fœtor since the end of the third week.

The case is interesting for the following reasons:

(1) It exemplifies the polypoid proliferation and caseation of retained pus, so usually found in chronic antral empyema.

(2) There was a co-existence of a rarefying osteitis of the superior maxilla with necrosis of small scales of bone, rendering the use of trephines, gouges, or Krause's trocar unnecessary to open and drain the antrum.

(3) The cure of fœtor and suppuration of eight years' standing was rapid, and performed well within the time allowed the patient by his governing board.

Specimen of Dead Bone, Polypi, and Débris removed from a Case of Chronic Empyema of the Antrum cured by Radical Operation in Eight Weeks.

Dr. SCANES SPICER showed this specimen. The patient from whom it came, E. P——, female, aged eighteen, had complained of

unilateral nasal stench and evacuation of foul crusts for nearly eighteen months. This stench was relieved by the evacuation of a crust, and then gradually increased for two or three days, until another crust was discharged. All teeth were present and apparently sound. Diagnosis confirmed by transillumination. Patient's parents had brought her from the North of England for cure, and were staying in London for that purpose. Radical operation as in last case was advised and performed. The patient returned after eight weeks with no fœtor or suppuration, and several reports up to Christmas, 1898, state there is no recurrence of fœtor or pus as before.

The presence of the sequestrum (suspended in the bottle by a silk thread), and the polypi, etc., which filled the bottle at the time of operation, indicate the extreme improbability of cure being effected by the tooth socket tube.

Dr. Scanes Spicer also showed the temperature chart of another patient on whom he had performed the radical operation in St. Mary's Hospital for cure of chronic empyema of the antrum, to illustrate that the modern form of operation was by no means the severe and dangerous procedure which had been stated. On no day had the temperature subsequent to operation exceeded the normal by a degree. The patient will attend at a subsequent meeting.

Further Report of the Case of Sarcoma of the Nose shown at the November Meeting.

Dr. BARCLAY BARON (Bristol) reported that he had sent a piece of growth removed from his case of sarcoma of the nose shown at the November meeting to the Morbid Growths Committee. They reported it to be an alveolar sarcoma, and showed sections of it at the December meeting. The growth rapidly increased both within the nose and externally, displacing the eye outwards. At Dr. Baron's request, Mr. Charters Symonds kindly undertook its removal, full view of the growth being obtained by enlarging the opening in the superior maxilla made by the disease. The dura mater was found to be exposed in one place, the bone covering it having been destroyed, and it would, therefore, have been a dangerous procedure to attempt to curette the interior of the nose without seeing what was being done.

The patient made a quick recovery, and there is very little disfigurement.

Mr. SYMONDS, in describing the operation, said that when he

first saw the case in the wards at Guy's Hospital it seemed to him to present clinically the ordinary appearance of a sarcoma of the nasal fossa. The elastic projection at the inner corner of the eye which had been noticed in November had projected and displaced the eye both upwards and outwards. In respect to the various opinions expressed as to the nature of this swelling, he carefully exposed it, and found it to be composed chiefly of soft growth. It was limited by the stretched periosteum, and between the two was some thick nasal mucus, an arrangement which would account for the sense of fluctuation. The incision was carried down to the ala of the nose, and another outwards below the orbit, then with a keyhole saw a part of the nasal process of the superior maxilla, and of the floor of the orbit and anterior wall of the maxilla, were removed. The aperture thus obtained, together with that made by the growth, which had destroyed the lachrymal bone and a part of the ethmoid, gave a large opening into the upper part of the nasal cavity. Through this the entire growth was removed. A sterilized pad was plugged into the posterior naris. On removing the growth, the dura mater, as Dr. Baron had mentioned, was exposed; this was not due to the forcible removal of bone, for the growth itself lay in contact with this membrane. That it was dura mater was clear from its bluish-white colour and its density; thus it was obvious that a large part of the ethmoid had been destroyed, and that the starting-point of the new growth was somewhere in the mucous membrane covering this bone. The mucous membrane round the area was cut away with scissors, including the middle turbinal, and the edges of bone around the site were also removed by cutting forceps. The maxillary sinus, which had been slightly opened, was freely laid bare by removing the inner wall. The wound was sutured, and the patient went home in a week. The eye returned nearly to the normal position, and the movements were unaffected, and there was no diplopia. The microscopic examination which was made by the surgical registrar at Guy's Hospital, Mr. Fagge, confirmed the report of the Morbid Growths Committee that it was alveolar sarcoma. The structure was identical in all parts of the tumour; it may be added that the growth extended from the nostril to the pharynx, but did not occupy the antrum.

In his report Mr. FAGGE stated that the microscopic appearances were those not uncommon in neoplasms of the nasal fossæ.

Mr. SYMONDS added that he usually, in operations upon the upper jaw, preferred, instead of the set procedure usually recommended, to use a keyhole saw, and surround the growth, leaving

any portion that appeared to be quite healthy, for in this way more or less of the palate in some cases might be preserved.

Peg removed from the Maxillary Antrum through the Ostium Maxillare. Shown by Dr. WATSON WILLIAMS.

Lupus of the Nose. Shown by Mr. WYATT WINGRAVE.

Female, aged thirty, complained of nasal obstruction with discharge of five years' duration. Four months ago the floors of both nasal fossæ were found occupied by granulations, which extended as high as the middle turbinals. Large quantities were removed by sinus forceps and curette, only to be followed by rapid recurrence. They are much less numerous now, but have involved the turbinals. The cartilaginous septum is perforated, and there is some evidence of old pathological changes in the soft palate. The larynx is normal.

Owing to the large amount of granulation tissue, the existence of severe pain, and evidence of caries on probing, syphilis was suspected, but no history could be obtained, and she did not respond to specific treatment. The tissue on examination gave no evidence of tubercle bacilli, but presented the usual features of lupus.

She has lost one brother and one sister from consumption, and suffers from lung trouble herself.

Mr. CRESSWELL BABER and Dr. THOMSON thought the appearances and fœtor resembled syphilis.

Dr. WATSON WILLIAMS suggested that in the discussion of such cases the terms lupus and tubercle should be used synonymously, as they were essentially identical diseases, and differing only in their chronicity and mode of growth.

Dr. DE HAVILLAND HALL upheld this restriction of nomenclature.

Tubercular Laryngitis in a Dwarf. Shown by Dr. HERBERT TILLEY.

Patient is a female aged forty-five, height 3 feet 2 inches. In February, 1898, she had an attack of influenza and bronchitis, since when she has had a chronic cough and hoarseness.

The larynx is very small, the vocal cords being only about 15 mm. long; both of them were ulcerated, also the right vocal process.

Tubercle bacilli had been found in the expectoration.

Two Cases of Epithelioma and One of Sarcoma of the Larynx treated by Thyrotomy, and keeping well two and a half years, one and a half years, and six months respectively after operation. Shown by Sir FELIX SEMON.

Case 1 (already described by the patient himself, Mr. C. Fleming, L.R.C.P., etc., in the *Lancet* of October 16, 1897): Medical man, aged forty-seven, noticed in June, 1895, slight huskiness, which steadily increased. In November a whitish, pointed, sessile thickening was seen in the middle of the left vocal cord. The cord itself congested, its movements free. In May, 1896, voice much worse, no other symptoms. Posterior part of left vocal cord generally thickened, slightly oedematous, no distinct growth visible, movements of cord still free. Two months later conditions unchanged. Proposal of exploratory thyrotomy supported by Mr. Butlin. Operation on July 21, 1896. The left vocal cord was found to be tumefied in its entire length, and was removed with an area of healthy tissue around it. Mr. Shattock pronounced the growth as a typical squamous-celled carcinoma in the early stage, with little horny transformation. Convalescence took place without any complications, and the patient resumed his practice within a month from the performance of the operation. Since then perfectly well. Voice very good. On laryngoscopic examination a marked cicatricial ridge is seen in the position of the former left vocal cord.

Case 2: Naval officer, aged fifty-seven, sent by Dr. Clay, of Plymouth, on March 30, 1897, on account of increasing hoarseness. Both vocal cords very irregular, considerably thickened and congested, particularly in their anterior two-thirds. Their movements free. Differential diagnosis between chronic laryngitis and malignant disease doubtful. The latter suspected on account of the unusual amount of thickening, and expectoration on one occasion of slightly blood-tinged sputum. Two months later hardly any change. Consultation with Mr. Butlin, who shared my suspicion of malignancy. Intra-laryngeal removal of some small projecting pieces of the general thickening for microscopic examination. Mr. Shattock's report on the largest of these ran as follows: "I took the greatest pains to cut the section of the small, flat piece of tissue at right angles to its slightly uneven and granulated surface. The result was wholly successful, and then I saw at once that the growth is a squamous-celled carcinoma. It is so marked that there can be no two opinions about it. The growth has a slight tendency to be horny, *i.e.*, less malignant than other forms." Operation on May 31, 1897. Thorough removal of both

vocal cords, scraping of bases. Uninterrupted convalescence. Two months afterwards granulation tumour in anterior commissure, which was removed intra-laryngeally. Patient has enjoyed good health since operation, but the voice, of course, has been reduced to a whisper, as *both* vocal cords had to be removed, and as the cicatricial ridges which have been formed do not compensate for their loss.

Case 3: Private gentleman, aged sixty-nine and a half, sent by Dr. Branfoot of Brighton, on July 15, 1897, on account of gradually increasing hoarseness, which had already lasted several months. A reddish, irregular, mammillated, broad-based growth occupied the greater part of the much congested right vocal cord, beneath which it seemed to pass into the subglottic cavity. Mobility of cord, if at all, certainly not much impaired. Differential diagnosis doubtful between fibroma and malignant new growth. Microscopic examination (Mr. Shattock) of intra-laryngeally removed fragment showed the tumour to be a sarcoma, nowhere undergoing fibrous transformation, but in part the seat of leucocytic infiltration, and altogether apparently of a highly malignant type. Thyrotomy on July 21, 1898. The thyroid cartilage was completely ossified, and had to be divided by sawing. The larynx having been opened, it was seen that the growth was partly pedunculated, but in part infiltrated the anterior part of the right vocal cord. The growth and the anterior half of the right vocal cord were removed and the basis scraped. The posterior part of the right vocal cord was stitched to the right ventricular band. The whole wound was immediately closed after operation, and only a small drainage-tube left in its lowest part. This, too, was removed on the second day after operation. The temperature rose in the evening of the first day to nearly 101°, and came only very gradually down until the normal was reached on the sixth day. In all other respects uninterrupted progress. The patient returned home a fortnight after operation, and ever since has been perfectly well. His voice has an almost normal character, and is still improving in strength.

Mr. SPENCER asked for information on three points: (1) What antiseptics were used. (2) Whether the thyroid cartilage was always sutured. (3) Whether the muscles of the neck were sutured together before closing the skin wound.

Sir FELIX SEMON (in replying to Mr. Spencer) said that his methods of operation had been described in the *Lancet* of 1894, and in the *Archiv für Laryngologie* for 1897; that he always rubbed iodoform into all the tissues before closing the wound; that he sutured the thyroid cartilage by means of catgut or silver

ligatures; that he now closed the wound in its entire length, withdrawing the sponge cannula immediately after the operation, and only left in its lowest part a drainage-tube; that he was not quite certain whether this modification represented a real improvement, as he thought he had observed that the temperature kept up longer than when the lower third of the wound, as previously, was left open for three or four days, and that he might possibly revert to the latter method. He had only once had to suture the *muscles*, and this was in a case of *tubercular* disease of the larynx, in which the wound had become infected. He added that the appearance of a tumour in the anterior commissure of the vocal cords was, to conclude from his own experiences, rather suggestive of the formation of a granuloma than of a recurrence of the malignant growth; and, secondly, that a recent communication of Professor Chiari's in the *Archiv für Laryngologie* had shown him that the idea of painting the laryngeal mucous membrane with a 20 per cent. cocaine solution to diminish bleeding and reflex irritation had not originated with him, as he had thought, but that he had been forestalled with regard to this by the late Professor Billroth.

Specimens.

Dr. MILLIGAN showed the following specimens:

1. Lymphangioma of Vocal Cord.
2. Laryngeal Papilloma.
3. Naso-pharyngeal Fibro-sarcoma.
4. Large Exostosis removed from Maxillary Antrum.

Multiple and Diffuse Papillomata of the Larynx.

Dr. JOBSON HORNE showed a case of multiple papillomata occurring in the larynx of a woman aged twenty-two. Change of voice had been noticed by the patient's friends for upwards of eighteen months, gradual in onset; at first only a roughness of voice, which had developed into complete hoarseness. Difficulty in respiration had been experienced after physical exertion, especially after going up and down stairs, and after prolonged talking. Latterly the patient has been distressed by nocturnal attacks of dyspnoea on first lying down, but had not been disturbed by them in the course of the night. It was on account of these attacks that the patient first sought advice.

Laryngoscopic examination showed a subcordal mass of papillomata attached in the neighbourhood of the anterior commissure, which when driven upwards during phonation occupied more than half the glottis. Diffuse papillomata also covered both cords.

The subcordal mass was removed, and the attacks of dyspnoea had ceased, and some improvement had taken place in the voice.

The growth under the microscope was found to be a simple papilloma.

Tubular Epithelioma of the Nose.

Dr. BRONNER (Bradford) showed a microscopic specimen of a tubular epithelioma of the nose. The growth was of the size of a large pea, and had been removed from the nasal mucous membrane just above the anterior part of the lower turbinated bone of a man of forty-seven nearly ten years ago.

There was a history of slight nasal obstruction and frequent hæmorrhage from the nostril. The growth had been removed by scissors, and the base then thoroughly burnt with the galvanocautery. There has been no recurrence. The report of the Clinical Research Association was: "The growth is malignant, of an epithelial type; it may be classed with the tubular epithelioma. At the periphery beneath the mucous membrane tubules with a definite lumen can be seen."

Mr. BUTLIN thought it would be very difficult to decide whether it was an adenoma or carcinoma, and suggested that sections should be made by the Morbid Growths Committee.

Case of Right Recurrent Paralysis with Paresis of Trapezium, Sterno-mastoid, and Palate, with Slight Ptosis and Facial Paralysis, all on the same Side. Shown by Mr. R. LAKE.

This patient, an intelligent man, aged thirty-six, was sent to me for an affection of the larynx. The following history was obtained: Eleven years ago he was stabbed over the right eye, and had subsequently Jacksonian (?) epilepsy, the last attack twelve months ago. No history of syphilis. He had had a cough since August, 1898, and loss of voice for three weeks, dysphagia, and food going the wrong way for two months. His right shoulder is lower than the left; wasting and want of power are noticed in the trapezium and sterno-mastoid, some paresis of palate; reflex present on both sides, the same with pharynx. Left pupil large, and only reacts slightly to accommodation, but not to light. Slight right ptosis and loss of power in the right labial muscles. No Romberg's symptoms. The patient has been taking 90 grains of iodide of potash daily, and had mercurial inunctions every other day for the past six weeks. The dysphagia is getting worse; the voice is now, and has been for the last week, nearly normal.

Growth of the Left Vocal Cord in a Man aged Thirty-two. Shown by Mr. C. A. PARKER.

History.—Voice began to be slightly husky about the middle of August last. The huskiness varied at first, but has been getting gradually worse during the last eight weeks. The patient is a tea inspector, and he is constantly inhaling tea-dust. There is no loss of flesh and no history of syphilis.

When first seen, on October 14, there was a large growth of left vocal cord, especially affecting the anterior half of the cord, where there appeared to be a superficial slough. From its appearance it seemed to be a simple papilloma. The cord was then moving freely.

On October 28 the anterior portion of the growth was removed and examined microscopically by Dr. Hewlett, who reported it to be a papilloma. Since then the growth has recurred to a great extent, and now looks more an infiltration of the cord than a growth attached to the cord; meanwhile the movement of the cord has become impaired.

The case is before the Society for suggestions on the diagnosis and treatment. It seems at present to be something more than a simple papilloma, and in spite of his age (thirty-two years), one is inclined to think it may be a case of early malignant disease.

He has taken 10 grains of iodide of potassium three times a day for six weeks without the slightest improvement.

Sir FELIX SEMON thought it looked very like malignant disease, and advised thyrotomy.

Mr. DE SANTI expressed similar views.

After History of a Case of Recurrent Paralysis of Vocal Cord.

Dr. WILLCOCKS, who showed the patient at the December meeting, reported that he had since had pneumonia, and died suddenly of intra-thoracic hæmorrhage, pointing with little doubt to aneurism which during life had presented no physical signs.

THE LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY OF THE NETHERLANDS.

Sixth Annual Meeting, the Hague, May 22, 1898.

Monatschrift für Ohrenheilkunde, September, 1898.

President: H. GUYE. Treasurer: MOLL. Secretary: BURGER.

I. POSTHUMUS MEYJES (Amsterdam). *On the Etiology of some Nasal Reflexer Neuroses* (see December Number).

DISCUSSION.

Herr ZWAARDEMAKER asked how the reflexes were excited. He noticed that the points mentioned were those described by Fliess in connection with disturbances of the generative system.

Herr MEYJES said he could confirm several of Fliess's observations. He supposed the mode of excitation was by friction.

Herr MOLL pointed out that this could not be the case with adhesions.

Herr BRAAT insisted upon the importance of general tonic treatment, cold sponging, gymnastics, warm feet, etc.

Herr VAN DER HEIDE mentioned a case of hypertrophy of the tubercle of the septum on both sides. Touching one side caused headache; touching the other side had no effect. On neither side did the middle turbinal touch the tubercle.

II. Dr. MOLL (Arnheim). *On Nasal Tuberculosis. Two Cases:*

(1) A smooth red tumour, springing from the posterior part of the cartilaginous septum in a woman of thirty.

(2) A large granular mass arising from the lower turbinal, and giving the impression of malignancy. It proved to be a tuberculoma. Recurrence is frequent.

Herr COHEN TERVAERT had used electrolysis successfully in one case to destroy granulations round a perforation of the septum and induce healing.

Herr HUYSMANN related the history of a woman of sixty who got nasal tuberculosis after nursing a case of phthisis.

III. Herr ZWAARDEMAKER (Utrecht). *Demonstration of Methods and Facts in Experimental Phonetics.*

For the graphic representation of spoken sounds, a modification of Marey's method was used. He recorded (1) the movements of the lower jaw, either from the external auditory meatus, or, better, by registering the movements of a chin-strap attached to a head-

band. (2) The movements of the lips, which were determined by a cylindrical air-cushion suspended from a nasal dilator. (3) The tension of the floor of the mouth in the middle line. In this way he obtained on the kymograph tracings representing vowel sounds, labials (explosives), dentals, and gutturals. The latter, like the *r* sound, are characterized by a sudden relaxation of the floor of the mouth. The curves of long-continued vowel and consonant sounds show a peculiar tremor, a physiological stammering, which becomes pathological when during the interruption a breath is drawn.

IV. Herr BURGER (Amsterdam). *Demonstration of X-ray Photographs taken by Dr. Max Scheier, of Berlin.*

The accessory cavities were well shown, and foreign bodies in them were readily recognisable. Photographs of the larynx showed that ossification of the cartilages begins much earlier than was thought. Another photograph showed a probe lying in the nasofrontal duct and frontal sinus—a demonstration to sceptics.

The method is also useful in investigating the physiology of speech, especially in showing the movements of the palate. Zwaardemaker and Kraft maintain that in uttering *m*, *n*, *ng*, the palate hangs relaxed and almost motionless, lying on the tongue, and that the naso-pharynx is the principal resonating chamber. Burger considers the mouth to be the principal resonating chamber. The difference between *m*, *n*, and *ng* can only be conditioned by the form of the oral cavity.

Herr ZWAARDEMAKER agreed. He had concerned himself chiefly with the naso-pharynx. The *dead* tone of voice in cases of adenoids was due to encroachment on this space.

V. J. H. REINTJES (Nymegen). (a) *Demonstration of a Case of Thyroid Gland of the Base of the Tongue.*

The patient, a man of twenty-five, had always spoken as if he had a lump in his mouth. He spat blood repeatedly, especially after excess in alcohol. In September, 1897, he had severe bleeding; soon afterwards Reintjes discovered a swelling, dark brown, smooth, elastic, covered with enlarged veins, occupying the base of the tongue, between the circumvallate papillæ and the epiglottis. Electrolysis being unsuccessful, Dr. Kolff operated. A Trendelenburg's cannula was introduced into the trachea, the tongue was pulled forward, and the anterior pillar of the fauces divided (temporarily). The strong capsule of the tumour was then split horizontally, and the mass shelled out without much bleeding. The sac and the anterior pillars of the fauces were then stitched

up. Recovery excellent; but the normal thyroid could not be felt in its usual position, and some symptoms of myxœdema have lately appeared.

Herr VAN SELMS saw last year a woman in whom swelling of the base of the tongue developed after removal of the thyroid.

Herr ZWAARDEMAKER doubted the absence of the normal thyroid.

Herr TEN SIETHOFF explained on developmental grounds the possibility of an accessory thyroid occurring at the base of the tongue.

Herr PEL saw no signs of myxœdema.

Herr REINTJES was sure of it.

(b) *A Case in which a Sarcoma had been removed from the Aryteno-epiglottic Fold by Sub-hyoid Pharyngotomy, and had recurred.*

(c) *A Large Papilloma of the Tonsil*, displacing the uvula and soft palate. Removed with the hot snare.

(d) *A very large Polypus of the Posterior End of the Middle Turbinal*, filling the naso-pharynx, to the walls of which it was loosely adherent. Removed by the snare introduced through the nose, the adhesions having been first separated.

VI. POSTHUMUS MEYJES. (a) *A Patient with an Inverted Tooth firmly fixed in the Floor of the Nose*, about 2 cm. from the entrance. There is a complete set of teeth in the mouth.

Herr VAN ANROOY had a similar case.

Herr FACKELDEY once extracted from the nose a tooth which was absent from its place in the mouth.

(b) *Demonstration of Nine Cases of Radical Operation.*

Meyjes has observed as a constant sign of caries of the middle ear the presence of a ring of little black hairs round the entrance of the meatus. He operates from within outwards, unless there are fistulæ or much granulation tissue in the middle ear. He closes the post-auricular wound completely, and leaves the first dressing on for a week. The skin wound is then healed, and a small ear-bandage suffices.

In cholesteatoma, he makes a permanent opening behind the ear. Granulation growth and discharge are lessened by insufflations of boric acid and aristol. Once the stapes was removed without bad result. Generally hearing was improved, even several metres for whispered speech. There is no certain method of closing the Eustachian tube, but Meyjes has succeeded several times by repeated cauterization.

Herr BURGER said epidermis grew rapidly under aristol. In

cholesteatoma he found the permanent opening unsatisfactory; there was often troublesome eczema.

Herr COHEN TERVAERT mentioned a case which underwent spontaneous cure by destruction of the posterior wall of the meatus, and the formation of a large cavity in the temporal bone, like that left after the radical operation.

Herren MOLL, WALLER, ZEPPA, and BURGER had seen similar cases. Burger thought this was only possible in cholesteatoma when the wall of the meatus was eroded from pressure, and the cavity was lined with a cholesteatomatous membrane.

Herr COHEN TERVAERT dissented.

VII. P. J. ZAALBERG (Amsterdam). (a) *Two Cases of the Radical Operation.*

In the first case there was an extra-dural abscess surrounding the sigmoid sinus, and the symptoms were pyæmic. Healing complete in four weeks. In the second case facial erysipelas appeared a week after the operation, but independent of it. As the dura and transverse sinus had been exposed, the matter was serious; but by using wet sublimate compresses to the wound, and 1 per cent. ichthyol ointment to the skin, he managed to avoid infection of the wound, and healing was uninterrupted.

(b) *Hoarseness and Sore Throat of Two Years' Duration cured by Vocal Exercises.*

To utter a single word was painful; there was some excess of mucus; articulation indistinct, breathing clavicular. Daily vocal exercises, diaphragmatic breathing, and the direction of the air-stream against the upper incisors were taught. In a fortnight pain was gone, and in two months cure was complete. (The patient recited a poem in a loud voice.)

P. MEYJES said the patient could not formerly speak ten words without clearing his throat. A slight degree of congestion and paresis of the internus had disappeared.

Herr BURGER doubted whether the artificial practice of abdominal respiration as now taught to singers was correct physiologically.

Herr ZWAARDEMAKER thought there was some risk of uterine trouble in women.

Herr MEYJES replied that when much was required of the voice thoracic respiration was found practically to be insufficient, so that abdominal respiration became necessary. The latter was the natural mode of breathing when lying on the back.

VIII. Herr BRAAT (Arnheim). *Treatment of Ozena by Unipolar Interstitial Electrolysis.*

He had treated fifteen cases in eighteen months. In three the result was negative, but two of these were afterwards found to have empyema. In one girl of five the treatment was abandoned because a current of 4 to 6 m.a. caused brain symptoms. Of the remaining eleven cases, five were quickly cured by three, seven, five, eight, and six sittings respectively. Four of them were seen four months later, and the cure was permanent. Fætor was gone; crust-formation trifling. Two others, being freed from all discomfort, had given up treatment. Three remained under treatment. He thought the current stimulated the trophic nerves. The sittings took place at intervals of ten to fourteen days, and lasted five to ten minutes. The current strength was 19 to 20 m.a.

Two cured cases were shown. One of Dr. Moll's had four sittings, which permanently cured the fætor, and left only slight crust-formation. No nasal treatment had been used for a year.

Herr VAN DER WEY cured one case in three sittings, and a second case was greatly improved.

IX. C. H. MOLL. *Carcinoma Laryngis.*

If one can operate through healthy tissues, and keep the case under observation, Moll thinks endolaryngeal operation justifiable. He showed a patient from whose vocal cord he removed a small polypus in 1895. The histological diagnosis was cancer. In 1897 there was a recurrence. He removed the anterior two-thirds of the cord with the double curette. The voice is now normal, and there has been no return as yet. Without the first microscopic examination one would have considered this a case of a simple tumour becoming malignant. The second case was one of subhyoid laryngotomy done in 1895, and so far successful.

Herr VAN DER HEIDE said microscopic examination was not always reliable. He narrated a case of papilloma in which the microscopic diagnosis was epithelioma.

Herr TEN SIETHOFF agreed. He knew of several cases in which a tumour diagnosed microscopically as malignant had turned out on removal to be tuberculous. The very fact of cure by endolaryngeal operation threw doubt upon the diagnosis of cancer.

Herr VAN LEYDEN said it was often impossible to guess the extent of a tumour by laryngoscopic examination.

Herr TERVAERT showed a preparation illustrating this in a striking way.

Herr MOLL, while agreeing generally with the opinions expressed, thought his first case justified endolaryngeal operation.

X. Dr. COHEN TERVAERT (Haag).

(a) *Case of Intra-Laryngeal Air-Cyst* (also shown last year).

The cyst was removed with the hot snare. At present the lateral wall of the larynx bulges towards the middle line, and there is a small opening where the cyst was. The bulging of the lateral wall of the larynx is due to a solid tumour, which projects also in the sinus pyriformis. A probe introduced into the opening in the lateral wall enters a cavity bounded externally by firm resistant tissues, and medially by a very thin membrane. This cavity no doubt represents the ventricle or its appendix.

COHEN TERVAERT supposes that the tumour having caused the narrowest part of the larynx to be above the cords, air entered the ventricle during phonation and gradually distended it. As there is a slight degree of the same condition on the opposite side, the appendices of the ventricles must be supposed to be congenitally large.

(b) *Two Patients with Abnormal Course of the Ascending Pharyngeal Arteries.*

Pulsation was plain; both had adenoids. What, he asked, was the course of the artery in the naso-pharynx in view of the necessary operation?

P. MEYJES said Brown Kelly had described the course of the artery. It makes an abnormal curve, and it is the anterior loop that one sees pulsating. Operation in the middle line is not contra-indicated.

XI. E. G. A. TEN SIETHOFF (Deventer). *On Ménière's Disease.*

After pointing out that the name is often loosely applied to a group of symptoms by no means very definite, he went on to say that the nineteen cases he claims to have cured were all typical ones. The symptoms are reflex phenomena, which have often nothing to do with the semicircular canals. In all of his nineteen cases the reflex action started from the nose. The local appearances varied, and included polypi, cristæ and posterior hypertrophies. Hypertrophy of the anterior and lower part of the middle turbinal was never of itself the cause of the reflex phenomena. In his cases it was always irritation of some definite part of the middle turbinal that started the reflex, but he did not mean to say that

this was always so. The tinnitus he ascribed sometimes to obstruction of the tube, sometimes perhaps to vaso-motor influences or reflex stimulation of the auditory. In every case it is important to determine whether the morbid irritability of the nose depends upon local or general causes. Siethoff then described the various reflex paths, and pointed out that the fifth nerve and the hypoglossal are connected with both cerebrum and cerebellum, while the auditory is only indirectly connected with the cerebellum through the medium of the corpora quadrigemina.

Herr MEYJES said he had had some cases similar to those described, which he had cured by local treatment of the middle turbinal. In other cases the treatment proved useless.

Herr PEL referred to the long free intervals which occur in this disease.

Herr TEN SIETHOFF explained that he considered no case as cured unless a year had elapsed since the treatment without an attack. He described a case of Ménière's disease combined with sclerosis. There was also hypertrophy of the lower turbinal. By chance he saw the patient during an attack. She was so dizzy that she could not open her eyes. The application of cocain to the nose cut short the attack (which generally lasted three days), so that in ten minutes she could open her eyes, and in half an hour was quite recovered. Nasal treatment cured both her vertigo and her deafness.

Herr PEL trusted the cases would be fully recorded. The patient who could not open her eyes reminded him of hysteria.

Herr TEN SIETHOFF replied that careful examination discovered no sign of hysteria.

Herr MOLL asked if he was really to understand that a patient with sclerosis had been cured by nasal treatment. He could hardly think so. As there was swelling of the turbinal, probably there was also a tubal catarrh, which subsided after removal of the hypertrophy. In a case of his own—of aural catarrh and nasal polypus—attacks of vertigo which were present were not due to the ear, but disappeared after removal of the polypus.

Herr TEN SIETHOFF repeated that he had had more than one case of Ménière's disease and sclerosis without tubal catarrh, and that the hearing had improved. He could offer no explanation.

XII. A. A. G. GUYE (Amsterdam). *On the Plica Vestibuli and the Aspiration of the Alve Nasi.* (Fully reported in a previous number.)

XIII. P. R. PEL (Amsterdam). *A Case of Congenital Stenosis of the Larynx.*

A child four weeks old, which was born asphyxiated, presented the following signs: (1) Stridor with in- and ex-piration; (2) very marked respiratory movements of the larynx; (3) inspiratory recession of epigastrium and lower thorax; (4) occasional exacerbations with temporary cyanosis.

XIV. M. BOLT (Groningen). *Case of Parotid Fistula.*

A liquid which converted starch into sugar flowed from the ear; more freely during mastication. The fistula was not visible.

XV. A. A. G. GUYE. *Conical Canulæ for the Antrum.*

XVI. P. MEYJES. *A Case of Probable Pneumatocœle of the Frontal Sinus.*

The patient, a youth of eighteen, had right-sided ethmoiditis, which was cured by local treatment. Some months afterwards he complained of headache and pressure over the right eye. There was some swelling, too, for his hat became too small for him. The region was tender on pressure. The swelling, as tested by measurements and casts of the head, slowly increased. There was nothing special in the nose, and the sinus could not be probed with certainty. Iodide relieved the headache very much, but the swelling increased. There was no darkness on transillumination. On opening the sinus from the outside the anterior wall was found "as thin as paper." The mucous membrane did not bulge into the wound in the bone. The cavity was quite empty. The anterior wall was removed, and the periosteum and skin stitched. A slight blood-stained discharge took place from the nose, but healing proceeded normally. Now, when the nose is blown, the skin bulges over the right eye.

Meyjes thinks that the naso-frontal duct was blocked, and that the bone, being thin and no doubt diseased, could not resist the pneumatic pressure.

WILLIAM LAMB.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND
OTOLOGICAL SOCIETY.*(Continued.)*

Some Anatomical Points in the Structure of the Lingual Tonsil of Practical Bearing on its Pathology. By LENNOX BROWNE, F.R.C.S. Edin.

Though some observer has stated that the lingual tonsil enters into a period of atrophic retrogression at the age of puberty, and, further, that in early adolescence, at the age of twenty years, the lingual tonsil ends by being reduced to some follicles of lenticular shape, so scattered as to represent complete atrophy, the author takes the opposite position. Experience has demonstrated that chronic hypertrophic inflammation of this glandular structure is without doubt the most common form of disease affecting this tonsil.

The difference between the lingual tonsil and the tonsil situated in the fauces and upper pharynx is that the former does not possess the tendency to atrophy at puberty, but, on the contrary, grows while the others relatively diminish.

It is exceedingly rare to find a hypertrophied condition of the lingual tonsil before puberty. Few such cases are recorded. In one of the cases reported by McBride there were no symptoms; in another, reported by Hickman, the condition was congenital, and death resulted shortly after birth from asphyxia directly referable to the growth.

Histologically, we find in the pharyngeal tonsil patches of honeycombed, homogeneous, colloid-looking substance, enclosed in what is apparently the remains of a lymph vessel, for these channels are for the most part much dilated. This appearance of the tissue points to a retrograde metamorphosis. Such changes are never seen in the faucial or lingual tonsils.

The mucous and albuminous glands of Henle and Salter are only occasionally seen in the palatine tonsil and never in the pharyngeal structure, and are abundantly present in the lingual tonsil, it being exceptional not to find them.

In the crypts which are at times found in the fourth tonsil columnar ciliated epithelium is seen, a peculiarity not found in the other tonsils.

Superficiality of the veins at the base of the tongue is quite frequently seen, and they may be present and give rise to un-

pleasant symptoms, even though the lymphatic structure is not hypertrophied.

The author mentions a case of pharyngeal tenesmus, occurring in a female patient, seventy-two years of age, caused by an enlarged lingual tonsil, thus proving that the gland does not tend to atrophy at puberty.

Acute inflammations, simple or infectious, are not a common involvement of this region. The suggestion is made that the comparative immunity to bacillary infection enjoyed by the lingual tonsil is due to the greater flushing of this area by the abundant secretion of the mucous and albuminous glands.

The severe pain which is at times experienced in diseases of this tonsil is due to direct stimulation of the glosso-pharyngeal nerve, while existing laryngeal symptoms probably result from reflex irritation of fibres of the superior laryngeal nerve supplying this site.

The superficial and plentiful arrangement of the venous plexus at the lingual base may account for the tendency to chronic enlargement and engorgement, as a result of vocal abuse.

Pharyngitis varicosa may cause bleeding, and so give rise to false diagnosis. Such a case is mentioned by the author. "Throat hæmorrhoids" is a term which graphically describes these enlarged and lingual veins.

The imaginary ulcer may arise from hypertrophy and varix of the lingual tonsil, or in another situation. Sites which are prone to pathological processes are the "*fimbriæ linguæ*," two rough patches seen on each side of the tongue, just in front of the anterior faucial pillars.

Report of Rhinolith. Removed by Dr. J. F. HILL (Water-ville, Me.).

For twenty-five years a female patient, aged sixty years at time of examination, had been afflicted with a profuse offensive discharge from the anterior and posterior nares. She had been treated for what was supposed to be a nasal catarrh, and was informed that her disease was incurable. Symptoms of aural disturbance appeared, together with epiphora of right ear and epistaxis. Severe headache of daily occurrence was a prominent manifestation.

On examination the author found the right nasal passage occluded with granulation tissue, and what appeared to be a grayish substance nearly filling the posterior nares. The foreign element was removed under ether anaesthesia with an ordinary lithotrite. It proved to be a rhinolith weighing 275 grains.

The inferior and middle turbinates were much wasted and ulcerated. Antiseptic after-treatment resulted in a complete cure of all symptoms.

Report of Two Cases of the So-called Eunuchoid Voice. By FRANK HARCOURT KOYLE (Hornellsville, N.Y.).

Two cases were cited, aged seventeen and eighteen years respectively, neither of which gave any history suggesting the cause of the falsetto voice.

In one case the voice was clear and distinct, but high-pitched; in the other the initial effort to phonate produced a whisper which was followed by the falsetto.

Above the larynx Case 1 showed a hypertrophied inferior left turbinate body as the only abnormality, while in Case 2 a nasal spur was buried in the left inferior turbinate, both faucial tonsils were hypertrophied, and there were enlarged lingual papillæ.

Externally, it was noticed that in Case 2 the upper one-third of the right thyroid plate overlapped the left during phonation.

In the larynx the cords were abducted and convex, the left being almost in the cadaveric position, and not adducting or rising during speech, while the right cord adducted *to and past* the median line *in front* of its fellow.

Rotation of the larynx from right to left was noticed during ascent of the right cord and the right side of the larynx.

Firm pressure over the crico-thyroid space was followed by the immediate production of low tones in both cases, the overlapping being prevented in the second case during pressure over the membrane.

In the first case no treatment was directed towards the relief of the nasal obstruction until long after the change of voice had been established.

In Case 2 the spur and tonsils were first removed. No change in the voice having occurred at the expiration of two weeks, the same method was used as in Case 1, with immediate results. No subsequent lapses to the falsetto were observed. These results would seem to demonstrate that the prevalent opinion of an obstruction in the nose, naso-, or oro-pharynx being the cause of the continuation of the child-voice after puberty is entirely erroneous.

After reviewing the anatomy of the structures involved, the author concludes that the eunuchoid voice is the result of an ankylosis of the crico-thyroid and crico-arytenoid joints, probably due to rheumatism *per se* or associated with a spasmodic affection.

There may be also a mechanical implication of the recurrent. The development of an acute localized articular rheumatism in a relatively remote situation, as in these joints, would be analogous to the gonorrheal rheumatism found in the knee-joint. Since pressure tending towards the restoration of the integrity of the laryngeal tissues is sufficient to produce the low notes desired, as well as to restore the normal movements of the various laryngeal structures, it is evident that an ankylosis is the only cause to be ascribed to explain the unilateral immobility and the resultant high-pitched voice.

**REPORT OF DR. GERBER'S POLIKLINIK FOR NOSE, THROAT,
AND EAR DISEASES IN KONIGSBERG FOR THE FIVE
YEARS ENDING 1896.—*Concluded.***

Monatschrift für Ohrenheilkunde, July, 1898.

GERBER has returned to the more conservative methods, and operates less. Chloroform is his ordinary anæsthetic, given sometimes in the semi-upright position. He reports one death—that of a weakly scrofulous child—in 458 administrations.

Nasal Massage he employs only in atrophic conditions—*e.g.*, *ozæna*.

Empyemata.—Of these he takes a somewhat gloomy view as regards prognosis.

Of eighty antrum cases, a few healed in from six months to one year; the majority lasted two years or more, and a few discharged pus for four or five years.

Frontal sinus cases admit of the best prognosis; the external operation is the best, but it generally leaves some disfigurement.

Ethmoidal disease is generally connected with the antrum or the frontal sinus, or with both. He describes the case of a lady of forty who has suffered since girlhood from nasal suppuration. The antrum was opened many years ago by Michelson. Five years ago she came to Gerber complaining of a return of headache. After long intra-nasal treatment he diagnosed frontal empyema, which was opened externally, and healed in a few months. Pain disappeared, but suppuration continued. The antrum was opened from the canine fossa, a counter-opening made into the lower meatus, and a large part of the ethmoid removed. After two years suppuration still continued; then, just as the antrum seemed to

be improving, headache returned, and the frontal sinus was found to be suppurating, having been apparently reinfected from the antrum. And so it goes on.

Acute Empyemata Gerber treats with warm inhalations, Politzer's bag, and the application of cocain to the openings of the sinuses.

Cold compresses to the forehead are useful in frontal cases, and, internally, bromide and iodide of potassium may be given. Iodide of potash may be tried in chronic cases, as there is often suspicion of syphilis.

Leukoplakia and *Ulcerations of the Tongue* Gerber treats with chromic acid.

In all conditions of *Laryngitis with Swelling*, and in the terminal stages of *Phthisis Laryngea*, Gerber recommends the external application of cold (Leiter's coils).

Radical Treatment of Laryngeal Phthisis.—Very few cases are suitable, only those in which the disease is localized and the general condition good. One case of cure is recorded amongst 200 cases.

In *Lupus* the case is different, and good results are often obtained, and last for years.

Pachydermia Laryngis is treated by frequent scoring with the laryngeal knife, sometimes followed by the use of caustics.

Etiology of Ozæna.—The factors are many: hereditary syphilis, rickets, scrofula, infectious diseases (especially diphtheria). The nasal cavity is broader and shallower, the septum is shorter from before backwards, and the depth of the naso-pharynx is increased. Measurements in 100 cases showed that in ozæna the septum was shorter from before backwards by 3 millimetres, while the diameter of the naso-pharynx in the same direction was correspondingly increased.

Fibrinous Rhinitis.—In seven cases virulent diphtheria bacilli were found both in the infecting and infected person. Membranous inflammations of the upper air-tract may be due to streptococci, staphylococci, diplococci, etc., as well as to diphtheria bacilli, and the clinical pictures may be identical. Gerber proposes to revive the term 'croupous' for such cases. True diphtheria is the more severe affection of the two, and may undoubtedly be present without membrane. Fibrinous rhinitis generally affects children, running a favourable course of two to three weeks, and rarely affecting other mucous membranes. Occasionally it develops into typical diphtheria. The difference is one of degree only, depending perhaps upon the vulnerability of the mucous membrane.

Late Hereditary Syphilis of the Upper Air Tract may begin as an

apparently simple inflammation, and then quite suddenly assume a malignant spreading form refractory to treatment.

Gerber records the occurrence of a *Hard Chancre* on the ala nasi, on the lip of a child of five and on the tonsil of an old woman.

Empyema in Syphilis.—Three cases occurred, probably in connection with caries of or near the middle turbinal.

Spontaneous Rupture of Empyema is noted twice: a frontal case through the anterior wall, and an antrum case into the orbit.

A large *Gumma of the Posterior Wall of the Pharynx* caused wasting of one arm, anæsthesia of the middle finger, and contraction of the pupil. It resembled a sarcoma. Iodide cured it.

Laryngeal Syphilis occurs in about 4 to 5 per cent. of all cases of syphilis, and in about 3·6 per cent. of all cases of throat disease.

Secondary and tertiary cases occur in the ratio of 7 to 4.

A Typical Case of Infantilism is described in a young man of twenty-two; his appearance is that of a boy of twelve. Formerly he suffered from ulceration of the turbinals, perforation (involving both bony and cartilaginous septum), ozæna, ulceration of the velum, uvula, and posterior pharyngeal wall and epiglottis. Though suggestive of syphilis, the case is nevertheless undoubtedly tubercular, as proved by the histological examination of a tuberculoma removed from the septum.

The case shows that syphilis and tubercle of the upper air-tract present sometimes identical clinical pictures, and also that tubercle as well as syphilis is capable of producing arrest of development and infantilism.

In another case of tuberculosis the naso-pharynx was chiefly affected, and there was ulceration of the sides of the choanæ and of the vault, and necrosis of the posterior edge of the vomer, just as one sees it in syphilis.

Tubercular Tumour of the Tongue in a healthy woman of forty-three. The clinical picture was that of leukoplakia. The lump was about the size of a pea and contained giant cells. The patient, the wife of a postmaster, had been in the habit of moistening stamps with her tongue, and might thus have infected it.

Tuberculosis of the Lobule of the Ear.—A robust young woman of twenty had an enlargement of the lobule of one ear. It appeared to be a simple hypertrophy, and caused no symptoms. In childhood it was bluish-red in colour, nodular, and bled readily when struck. A piece was removed to correct the deformity, and microscopic examination showed that, instead of simple hypertrophy, it was typical tuberculosis of the skin.

Rhinoscleroma: Four Cases.—The nose was intact externally;

internally the lower parts were atrophic, as in ozæna; on the middle turbinals were hard, rigid growths, also on the septum, especially the vomer, and on the sides of the choanæ. Secretion fetid and purulent. In the larynx, stenosis, from subglottic growths; in the trachea, crusts. Typical bacilli were found.

Rhinoliths: Three Cases.—When decalcified and examined microscopically, the ground substance was found to consist of a homogeneous granular material, arranged in layers or radiating striæ. The granules were found to consist of masses of bacteria, and the striæ of mycelium threads, arranged here and there round the central masses of granules. The general appearance reminds one of actinomyces, but there are no club-shaped bodies or branching threads. The organisms took no aniline stains. Rhinoliths are rare, but occur at all ages. They are much more frequent in females, and bacteria play the most important part in their formation.

Paralysis of the Recurrent: Six Cases.—Without discoverable cause. Three were in persons of fifteen to twenty years enjoying robust health. Pressure by an enlarged bronchial gland seems to be the most likely explanation.

A case of *Double Abductor Paralysis* following typhoid is recorded.

Hysterical Spasm of Glottis.—A healthy young woman of sixteen suffered long from hoarseness and then from dyspnoea, which necessitated tracheotomy. No trace of organic disease could be found, and the canula was after a time removed, but had eventually to be reintroduced on account of a recurrence of the spasm.

WILLIAM LAMB.

APPOINTMENT.

DR. FRANCIS J. QUINLAN, of New York City, has been appointed Laryngologist and Rhinologist to Charity (City) Hospital, Blackwells Island, by the order of the Commissioners of Charity and Correction.

CORRESPONDENCE.

Letter from Sir William Dalby.

DR. DUNDAS GRANT has much pleasure in placing before the readers of the JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY, in accordance with Sir William Dalby's wish, the following letter which he has received from Sir William in regard to his comments on Sir William's statement that "the removal of the ossicles becomes merely a detail in some of the necessarily grave operations for specially grave cases; that their removal cannot usefully be discussed apart from those operations which occasionally are required to save life."

February 5, 1899.

DEAR DR. DUNDAS GRANT,

In the JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY for February, at p. 60, you quote a portion of a sentence from a letter which I wrote to Mr. Cheatle as follows: "The removal of the ossicles becomes merely a detail in some of the necessarily grave operations for specially grave cases: that their removal cannot, I think, usefully be discussed apart from those operations which occasionally are required to save life." And afterwards you proceed to comment on this, attributing to me views and opinions *I am very far indeed from holding*. The rest of the sentence is as follows: "So that a very exhaustive article would be required to discuss the question satisfactorily to the writer or reader. I have written my reasons for not acceding to your request somewhat fully, as I should be exceedingly sorry to appear uncourteous by not giving my reasons, which I hope you will deem sufficient."

By this I wished it to be understood that the removal of the ossicles in suppuration of the tympanum would, in my opinion, be better discussed at the same time as the radical mastoid operation, the two being often so closely allied in regard to protection to life. In fact, in my reply to Mr. Cheatle I have not discussed the matter or expressed any views.

I am sure you would not willingly misrepresent me, and possibly the fault was mine in not making my meaning more clear. All the same, I must beg that in the next number you will publish this note, and you will no doubt be glad of the opportunity of doing so.

Yours truly,

(Signed)

W. D. DALBY.

Abstracts.

MOUTH, Etc.

Armstrong, George E.—*Excision of Half of the Tongue.* "Montreal Medical Journal," December, 1898.

THE patient, male, aged 63, exhibited on right side of the tongue a hard, indurated mass, about the size of a bean, which appeared to involve the lingual nerve. Hot and cold liquids caused the patient pain. Microscopical examination of a section proved it to be carcinoma.

It was decided to remove half the tongue by Butlin's modification of Kocher's method.

Preliminary tracheotomy was performed under ether. Then the pharynx was packed. An incision was made from the mastoid process to the hyoid bone, and thence along the anterior belly of the digastric muscle to the jaw, slightly to the right of the median raphe. The platysma was divided, and the lingual and facial arteries tied. The submaxillary and lymphatic glands were extirpated. Then the mucous membrane along the jaw and the mylo-hyoid muscle was divided. The tongue was split down the middle line, the right side drawn well out of the wound, and excised behind the disease.

The oozing being stopped, the wound was closed. The tracheotomy-tube was left in, and the pharynx freshly plugged. For three days the patient was fed by the rectum; after that by a tube through the mouth. On the eighth day the tube was removed; and on the thirty-first day he was discharged as cured.

Ten weeks after operation he presented himself for examination. The remaining half of the tongue lay in the middle of the floor of the mouth. It was straight and moist, as well as materially useful both in mastication and speaking.

Price Brown.

Henke, Dr. (Clausthal).—*Anomalies and Morbid Conditions of the Uvula.* "Monatschrift für Ohrenheilkunde," July, 1898.

It is very rarely absent, but may be rudimentary. It may be elongated, but slender, as if pulled out lengthways. Generally the upper part is conical and contains muscle, while the terminal portion is much smaller, and consists only of mucous membrane and a little connective tissue. Sometimes there is a bleb-like swelling at the end. An elongated uvula is generally anæmic, but in true hyperplasia the organ is thickened, elongated, highly vascular, and contracts sluggishly, or not at all. The end of such a uvula may be greatly enlarged with a smooth knobby outline like a cluster of grapes. The anterior surface is chiefly affected in hyperplasia; the muscle lies close to the posterior surface. The uvula may be bent like a bow, with the concavity upwards, and the mucous membrane transversely folded. Very large tonsils may cause it to assume this position. Oblique uvula may be due to local hyperplasia of one side, and the same process at the extremity may produce a polypoid appearance, while the mucous membrane of the palate at the base of the uvula is transversely folded. Chronic catarrh is generally assigned as the cause of these changes. Paresis of the palate (as from adenoids) is considered by some to play a part. Pronounced anomalies of the uvula may interfere with speech and deglutition, giving rise to the sensation of a foreign body in the throat,

with a constant desire to swallow. A very long uvula may cause retching and vomiting, cough, and even laryngismus. The uvula may be grooved, generally vertically, on the anterior surface, with a broad lobed extremity, or it may be split, the parts lying in close apposition; or bifid, the parts diverging. The right lobe is generally the larger of the two. Perforation of the uvula may, it is said, be congenital. Syphilitic perforation generally begins on the posterior surface, and comes as a surprise.

Neoplasms are rare, especially cancers, which are generally epithelial, and often begin on the posterior surface of the velum, very seldom affecting the uvula alone.

The so-called *mixed tumours* are supposed to originate from aberrant embryonal epithelial cells. They show mucous and cystic degeneration, are never limited to the uvula, and are not malignant. One (congenital) chondroma has been observed by Henke.

Cavernous angioma is not rare, and always congenital. It originates at the point of junction of the palato-pharyngeal arch and the uvula, probably because at this point the ascending and descending palatine arteries anastomose.

Adenoma is very rare. It springs from the submucous glands.

Papilloma comprises about 70 per cent. of all tumours of the uvula. They may be large and solitary, hanging by a thin pedicle, often from the point of the organ; or they may be multiple, implicating generally the arch of the palate.

Sessile fibromata occur, and *leprosy* may infiltrate the uvula. It is rarely involved in adhesions.

William Lamb.

N O S E.

Baumgarten (Budapest).—*Bony Occlusion of the Choanæ*. "Monatsschrift für Ohrenheilkunde," September, 1898.

Occlusion of the choanæ may be :

(a) True, and then is generally congenital and bony, or chiefly bony.

(b) False, the result of ulceration and adhesion, and generally membranous.

He recounts the following cases :

(1) *True Unilateral Occlusion*.—A healthy youth of eighteen had never been able to breathe through the left nostril, but breathing and speech were normal. With the post-nasal mirror, the choana could be seen to be completely closed by a partition which felt like bone to the probe. The nose was otherwise normal. A hole was bored through the partition, and then with a long gouge and mallet it was detached all round its circumference, some stray fragments being removed with forceps. No anæsthetic was used, and there was little bleeding.

(2) *Partial Bilateral Occlusion* in a boy of fourteen. From behind, the semilunar edge of a bony obstruction could be seen stretching like a bridge from the middle turbinal to the outer wall. From the front (after cocaine), part of the semilunar edge could be seen.

William Lamb.

Finlay, F. G.—*Thrombosis of Cavernous Sinuses from Suppuration in Nasal Cavities.* "Montreal Medical Journal," November, 1898.

THE patient, a girl of fifteen, was admitted to the Montreal General Hospital October 1, 1898. Two years previously she was laid up for two weeks with acute rheumatism.

State on admission: Moderately well nourished. There had been a purulent discharge from the nose for some weeks, but no aural affection. There was intense headache, skin hot and dry, temperature 101° , pulse 120, and compressible. There was also a high arched palate.

October 2: Temperature varied between 102° and 105° . Left eye somewhat swollen.

October 3: Marked oedema of upper and lower lids. Protopsis of both eyes. Rigor in afternoon. Temperature rose to 106° .

October 4: Protopsis increased in both eyes. On left side eyelids bulged to level of forehead. Conjunctiva of right eye oedematous. No amelioration of symptoms occurred.

October 6: There was delirium. Red lines on the forehead indicated the occurrence of purulent phlebitis. Temperature rose to 108° followed by death.

Post-mortem revealed septic thrombo-phlebitis of cavernous sinus; suppuration and necrosis of ethmoid cells, orbits, and scalp; acute purulent meningitis; old suppuration in left antrum; small infarct of spleen; cloudy swelling and fatty degeneration of all organs.

There was a layer of lympho-pus extending from the Sylvian fissure to the front end of the lobe. Another pocket of pus was found on the left side of the pons; and a third at the base of the cerebellum beneath the arachnoid. The sella turcica and other regions likewise presented purulent infiltration.

Price Brown.

Körner, O. (Rostock).—*Escape of Cerebro-Spinal Fluid through the Nose, in Conjunction with Atrophy of the Optic Nerves, probably caused by the Perforation of the Wall of the Sphenoidal Sinus by a Tumour of the Hypophysis.* "Archives of Otology," October, 1898.

THE author describes a case under his own observation with the above-described symptoms which lasted eight and a half months and ended in death, no autopsy being obtained. The discharge was continuous, amounted to about 15 cubic centimetres in the hour, and presented the outward appearance of cerebro-spinal fluid. There was slight prominence of the eyeball, rotatory nystagmus, great diminution of vision from bilateral optic atrophy. The supposed explanation was rupture of an intracranial tumour of the pituitary body into the sphenoidal cell. This was suggested by a case described by Gutsché, in which the course of events was proved by post-mortem examination. Short accounts are given of eight recorded cases, as follows: 1. Baxter, "Brain," vol. iv., p. 525 (January, 1882); 2. Gutsché, reference not given; 3. Hardy and Wood, "New York Med. Journ.," vol. ii., September 5, 1890; 4. Leber, Graefe's "Archiv für Ophthalmologie," vol. 29, Part I., p. 273; 5. Nettleship, "Ophthalm. Review," January, 1883; 6. Priestley Smith, "Ophthalm. Review," 1883, p. 4, Case I.; 7. Ibid., Case II.; 8. Mackenzie Wallace, "Transact. III. Session Intercolonial Medical Congress," Sydney, June, 1893, and "Centralblatt f. Laryngol.," vol. xi., p. 67.

Death took place in four of the cases, recovery once, and in the remainder the result was not known. In all there was bilateral optic atrophy.

Dundas Grant.

LARYNX.

Hanszel, Dr. Friedrich.—*Therapeutic Notes from Professor O. Chiari's Policlinik, Vienna.* "Wiener Klinische Wochenschrift," No. 49, 1898.

ORTHOFORM has been used as a powder and as an ointment, 10 per cent. The powder has been used in tuberculosis of the pharynx, epiglottis, and larynx, with satisfactory results where there was pain on swallowing or coughing; in herpes and pemphigus of the upper respiratory tract; after nasal operations; and in empyema of the antrum. The ointment was used with success in eczema of the nasal orifice. Orthoform has proved the best substance at our disposal for relieving pain in ulcerative processes of the upper respiratory tract. Anæsthesia occurs in about three minutes and lasts for five hours. Maximum effect is produced in from half an hour to an hour. It has no effect on the uninjured skin or mucous membrane. In a few cases striking diminution of secretion from the membrane on which it was applied was noticed.

Iodine and Menthol Vasogen.

Vasogen is oxygenated vaseline, which has the property that drugs dissolved in it are very easily absorbed. It contains ammonia, which frequently produces too much irritation, especially in the nose. It is manufactured by E. T. Pearson, Hamburg. Formulæ are, Iodi resubl. 6·0, vasogeni 94·0; mentholi 2·0, and vasogeni 98·0. The iodine preparation can be recommended as a pigment in old-standing dry catarrh of the pharynx or larynx, and in syphilitic affections. The menthol preparation is of use in hypertrophic rhinitis, if too much irritation is not caused by the ammonia. It is most useful in hypertrophic pharyngeal catarrh, especially in acute and subacute pharyngitis lateralis.

Emma and Constantinquelle in Gleichenberg.

These waters were found to have a very favourable influence on diseased mucous membrane of the upper respiratory tract. As regards carbonic acid, the Gleichenberger springs rival the Giesshübler König Otto and the Krondörfer Stephanie springs, the latter of which contains more carbonic acid but less chlorinated soda. The Emmaquelle also contains iodine and bromine; these are wanting in the Constantinquelle, which contains about double the amount of carbonate of iron, also more free carbonic acid and fixed ingredients.

They are used as gargles alone or with an equal quantity of milk. In dry pharyngeal catarrh they aid expectoration and relieve the disagreeable sensations of dryness, feeling of a foreign body, etc. They are also useful in painful catarrhal angina (pharyngitis subacuta).

They are useful for inhalation (especially the Emmaquelle) in chronic catarrh of larynx and trachea, with tenacious expectoration, and in slight cases of phthisis laryngea. They are contraindicated if there is a tendency to hæmoptysis. They may be drunk alone or with milk, and seem to increase the appetite.

Airol, Traumatol, Xeroform.

Airol has the greatest drying power. Their antiseptic properties are about equal; they are used as protective powders or impregnated on gauze. Infection of wounds has never been noticed, and although their antiseptic properties are not so powerful as iodoform, unlike the latter,

disagreeable consequences were never noticed. Further, they have no disagreeable odour. The gauze may be used to plug the antrum, but should not be left more than five days. The gauze is also used as tampons for the nostrils after operation. *Guild.*

Lichtwitz (Bordeaux).—*A Case of Double Prolapse of the Ventricle of Morgagni. Ablation; Cure.* "Revista de Laringologia," etc., Barcelona, October, 1898.

THIS case is peculiar in the occurrence of the prolapse of the right ventricle two months after that on the left side had been cured by operation.

The patient, a pilot, aged thirty-nine, of good personal and family history, after a violent sneeze felt a severe pain in the left side of the throat, followed by gradually increasing hoarseness. Laryngoscopy showed congestion of the left side of the larynx, and a dull red tumour covering the left vocal cord. The right side of the larynx appeared normal. The prolapsed ventricle was removed by cutting forceps under cocaine in two sittings. The voice returned, and remained clear for two months, when hoarseness again set in, and on examination the right ventricle was found prolapsed and removed in the same way. The patient made a good recovery, and five months later his voice was normal, though he complained of occasional pain in the throat. *James Donelan.*

Martinez, Emilio (Havana, Cuba).—*A Case of Respiratory Inhibition of Laryngeal Origin (Inhibicion Respiratoria Laringea).* "Arch. de la Policlinica."

THE patient, a girl of nine years of age, suffering from papilloma of the glottis after tracheotomy, was operated on by thyrotomy for removal of the numerous papilloma obstructing the glottis.

After anæsthesia by chloroform, the operation was conducted without an accident; but on scraping the tumours from the larynx with a curette introduced through the thyroid incision, the respiratory movements ceased, and artificial respiration was performed for about five minutes, until normal respiration was re-established. Fearing this accident might be due to the anæsthetic, this was suspended, and after the return to consciousness the scraping was tried again, but the same phenomenon was repeated, and then for over ten minutes it was necessary to keep up artificial respiration. During this accident the pulse preserved its normal rate, but became slow and weak if artificial respiration was abandoned. The operation was suspended. The patient recovered in a few days, and was subsequently operated on through the mouth with the snare on various occasions, freeing the glottis of the tumours that were not scraped out. The tracheal tube was then removed, and at present—one year after the operation—the patient is doing well, and with the exception of some hoarseness, can breathe freely.

The author considers this accident as a clinical proof of the inhibitory function of the superior laryngeal nerve, and confirmatory of Risenthal's experiment, in which irritation of this nerve in animals inhibits the respiratory function. Also, he thinks it is possible that some cases of death from chloroform, not attributed to an overdose, might have been caused in this manner, and proposes local anæsthesia of the larynx with cocaine as a precaution before administering chloroform.

Uchermann, Professor (Christiania).—*Laryngitis Rheumatica Circumscripta (Nodosa)*. "Centralblatt für Innere Medicin," No. 39, 1898.

THE criticisms of Professor Goldscheider, Dr. Hirsch ("Deut. Med. Woch.," No. 50, 1898), and Herr Ephraim ("Centralblatt für Innere Medicin," No. 4, 1898) have prompted this paper. Ephraim concludes that one case was acute rheumatism of the crico-arytenoid joint, the other localized catarrh over the arytenoid. Uchermann states that he did not describe acute articular rheumatism and accompanying laryngeal affection, but an acute laryngitis, which is independent of acute rheumatism, and does not end in this disease, but which, nevertheless, rests on a rheumatic basis, is not accompanied by symptoms of catarrh, and exhibits a firm, sensitive infiltration, which disappears quickly with salicylic acid.

He has seen four cases: two had had articular rheumatism some years before, but had had no recurrence; the other two had had rheumatic muscular pain or neuralgia, due to exposure to damp. There is no fever; it is allied to, but not complicated with, cutaneous rheumatism. Catarrh does not occur in these rheumatic forms, and its absence is of importance in differential diagnosis. Inflammation in the crico-arytenoid joint is accompanied by marked œdema; the swelling is more diffuse, and does not show the firm sharp contour of this infiltration, which may also occur on the aryepiglottidean fold without interfering with the movements of the vocal cord. He does not doubt that a similar appearance may occur in articular rheumatism and erythema multiforme. Angioneurotic œdema, which occurs in erythema multiforme (also in urticaria, etc.), may be confounded with rheumatic laryngitis. Gummatous infiltration of the introitus laryngis resembles most closely laryngitis rheumatica nodosa (*sui generis*). The resemblance may be so close that a diagnosis can only be made *ex juvantibus*, as in the following case:

N. N——, fifty-five years old, baker. After a stay at the coast in bad weather, hoarseness with slight cough, no dyspnoea. Syphilis twenty-five years ago, since then no symptoms of this disease. Slight tenderness on pressure on the left side of the thyroid cartilage. No pain on swallowing. Pharynx is injected and covered with a little mucus. Left arytenoid process markedly œdematous, greyish blue, left vocal cord immovable in the cadaveric position, injection of the false cord on the same side. September 25: Salicylate of soda. October 1: No improvement; iodide of potash. October 11: Vocal cord slightly movable, infiltration has disappeared. October 16: Dismissed cured. He therefore advises in doubtful cases salicylate of soda to confirm the diagnosis. In this case there was no pain on swallowing, otherwise it resembled a rheumatic affection. He has seen a similar case which was rheumatic in a young girl; the part affected was the pharynx. On the right side of the pharynx was a whitish-red, firm, sensitive infiltration the size of a hazel-nut, which, apart from nodosa rheumatica, he would have diagnosed as a gumma. There was no history of syphilis, and it disappeared with salicylate of soda. He differentiates rheumatic laryngeal affections as follows:

1. Acute rheumatism may be accompanied by rheumatic laryngeal affections. They occur most frequently in acute articular rheumatism, and in the form of inflammation of the crico-arytenoid articulation.

2. Independent rheumatic laryngeal affections in people with a rheumatic constitution or predisposition: (1) Laryngitis simplex with

great sensitiveness and injection, slight swelling of the mucous membrane and no catarrh (laryngitis rheumatica simplex—Inglas, Thorner, etc.). (2) Form with infiltration (laryngitis rheumatica nodosa, *sui generis*—Uehermann). (3) Laryngitis rheumatica œdematosa. This form can only be diagnosed from infectious œdematous laryngitis by the history and the rapid improvement with anti-rheumatic remedies. These forms also occur in the pharynx. *Guild.*

E A R.

Cozzolino, Prof. (Naples).—*On some Operations for Primary Thrombo-Phlebitis of the Jugular and Transverse Sinuses, and for Otitic Extra-Dural Cerebral and Cerebellar Abscesses.* "Bolletino delle Malattie dell' Orecchio della Gola e del Naso," Florence, September and October, 1898.

PROFESSOR COZZOLINO gives a summary of thirty-six cases in which mastoidotomy was performed with success for the cure of pyogenic processes in the cavities connected with the tympanum, and details of six cases in which, owing to extension of the infection, aural surgery had to be supplemented by endocranial measures.

The following is a brief summary of the leading features of these cases and of the operator's remarks:

CASE I. *Primary Thrombo-Phlebitis, or rather Acute Streptococcic Phlebitis from Circumscribed Osteomyelitis of Portion of the Walls of the Tympanum and Mastoid.*—The patient, a carpenter, aged thirty, underwent myringotomy for acute phlegmonous median otitis, but the pain and fever continuing, with signs of endo-mastoiditis, antrotomy was performed next day, evacuating pus which, like that from the myringotomy, yielded a pure culture of streptococcus. The fever persisting, some small cells were laid open, and perfect drainage established through the tympanum. During this operation the patient developed remarkable hyperæsthesia of the right cervico-lateral region, slight friction producing contractions of the muscles of the neck and limbs of that side. Pain, increasing from below upwards, was elicited along the anterior margin of the sterno-mastoid, and though there were no rigors and no other local symptoms, primary phlebitis of the bulb of the jugular was diagnosed. Next day, as there was some paresis of the right arm, the jugular and some of its affluents were ligatured. No thrombi were found, but they were choked with pus which yielded a pure culture of streptococcus of unusual virulence. The transverse sinus was normal in appearance and movement and the blood, removed by exploratory puncture, normal. Temperature fell next day to 38° C., but fever persisted to the seventh day from ligature, when it rose to over 40° C., preceded by rigors. No signs of metastasis, but the patient died two days later, having been unconscious for twenty-four hours.

Post-mortem.—Remarkable inflammatory thickening of the walls of the bulb, which did not, however, extend below the resected portion of the vein; some affluents of the jugular also infected. None of the paired or unpaired sinuses of the dura-mater were involved, and the walls of the sigmoid sinus were unaffected as far as their passage through the foramen lacerum. On the other hand, the cerebral symptoms were explained by a purulent lepto-meningitis of the convexity of the right anterior cerebral lobe, and of part of the left

posterior lobe, *i.e.*, the side opposite the affected ear and site of operation.

This purulent arachnoiditis of the convexity, especially on the left side (the diagnosis of which, according to Gowers, presents the greatest difficulty, even at an advanced period, and which is often associated with streptococcic toxin infection), explains the hyperæsthesia, muscular spasm, subsequent paresis, and the headache increasing in intensity, passing into the coma which prevailed towards the end. In 1872, Prof. Schwarze, of Halle, had already observed similar convulsive spasms of the limbs.

With the present knowledge of cerebral localization the sensory and motor disturbances in the limbs on the side of the affected ear are explained by the cross action of the centres and the inflammation of the ascending parietal and occipital convolutions on the left side as shown by the autopsy. This case was in conformity with recent statistics, which show that primary thrombosis of the jugular bulb is relatively more frequent than was believed five years ago, and hence the pathological axiom, that this affection must always be looked on as secondary or cotemporary to that of the transverse sinus, is no longer exact; nor is it any longer statistically correct to place it after that of those paired sinuses—transverse, sup. and infr. petrosal, cavernous carotid, etc.—which are ordinarily involved in otitic infections. It seems, however, to be demonstrated that thrombo-phlebitis of the transverse sinus, etc., sometimes follows that of the jugular by infection ascending against the blood stream.

This thrombo-phlebitis is the gravest of all in view of the larger calibre of the vessel and the closer proximity of the thrombus to the heart. Deaths from pyæmia and metastasis in jugular thrombosis averaged 76·5 per cent., in that of the transverse sinus 36·5 per cent., and in that of the inferior petrosal 30 per cent.; no deaths from pyæmia in that of the cavernous sinus. In acute and chronic osteomyelitis of the walls of the middle ear primary thrombosis is easily accounted for by the opening into the bulb of the jugular of the tympanic and antral veins, some of which also pass directly into the transverse sinus.*

CASE II. *Thrombo-Phlebitis of the Right Transverse Sinus from Infection of the Emissary Veins of Santorini in Pan-Mastoiditis.*—The patient, a coachman, was first operated on by opening all the mastoid cavities visibly infected. Some weeks later he developed an extradural abscess, on account of which the mastoid apex was removed. When the abscess was nearly cured he had rigors with fever (39·5° to 40° C.) for two days. There was some oozing of pus, and to discover its source a diverticulum of aberrant mastoid cells was demolished in the postero-superior angle of the cortical region beyond the edge of the sigmoid sulcus and of the masto-occipital suture. It was found that pus issued also from the emissary veins of the transverse sinus which had its mastoid foramen amongst these suppurating cells of the masto-occipital suture. Thus were explained the febrile symptoms and the consecutive thrombo-phlebitis of the transverse sinus.

On the next day double ligature of the jugular, high up, with resection of a portion which was found full of pus, was performed, and then the transverse sinus was exposed as far as the torcular, and was found almost entirely thrombous. It was opened and curetted in its entire

* A diagram representing these relations appears on p. 552 of Chipault's "Chirurgie Cranio-Cérébrale." Paris. 1894.

length and then packed with iodoform gauze. The pyæmic symptoms disappeared, but the fever, though reduced, persisted, and on the morrow the patient complained of pain below the clavicle and in the axilla, with symptoms of metastatic abscess in the liver and spleen, and died four days after the last operation. The pus from the thrombus and the veins of Santorini yielded a streptococcus of moderate virulence.

This case in the immediate pathogenesis of the thrombo-phlebitis differs remarkably from the preceding, and shows that one can never sufficiently urge the demolition of all the mastoid cavities and the immediate exploration of the whole external surface of the mastoid by means of a horizontal incision through the soft tissues, *à la* Zaufal. This is specially necessary in mastoids like that in this case, which are more or less completely pneumatic and more likely to have hidden diverticoli in the sutures, the infection of which by continuity or contiguity may risk the life of a patient operated on by mastoidotomy, as shown in Case VI.

CASE III. *Thrombo-Phlebitis of the Transverse Sinus in its Sigmoid Portion, with Diffuse Jugular Periphlebitis from Subacute Endo-Mastoiditis with Circumscribed Necrosis in the Sigmoid Sulcus.*—The patient was seen during an attack of pyæmic fever, being the fourth or fifth he had within a week. Griesinger and Gherardt's two well-known symptoms of obstructed venous circulation were absent, but there was pain along the retromastoid region as well as lateral cephalalgia, photophobia, and the general symptoms of depression with vomiting, etc. He was at once operated on by demolition of the external wall of the mastoid antrum. Pus was not found, though it was certainly from here that the diffusion of the intra-cranial infection had taken place, causing the thrombo-phlebitis. Next day the cerebellar wall of the mastoid cavity was completely removed, and the entire sigmoid portion of the transverse sinus was laid bare and found motionless and thrombous, the dura-mater having distinct signs of pachymeningitis. The sinus was opened in its length, and was curetted as far as possible in both directions. Having been well disinfected with a weak solution of corrosive sublimate, it was packed with strips of iodoform gauze. Next day the general condition of the patient was better, but on removing the dressing on the third day there was a welling up of foetid sero-sanguineous fluid in considerable quantity, which was increased by pressure from below upwards along the posterior border of the sterno-mastoid. It was then easy to recognise a diffuse jugular periphlebitis, which by involving the loop that turns round the cervical nervo-vascular sheath caused the pain complained of, especially on moving the neck. In order to lay bare the fistulous track by which this foetid fluid had found its way into the cervico-lateral region the incision was extended 3 cm. lower, the mastoid tubercle laid open together with the remainder of the sigmoid sulcus co-terminating with the outlet of the transverse sinus in the jugular bulb. Adequate drainage was established with careful antiseptic medication.

The patient, a boy of sixteen, a month after the operation is almost free from pyæmic attacks, and there are hopes he may be cured, as the sanious fluid, which yielded a pure culture of streptococcus, changed in a few days to healthy pus, and there is no other external or cervical purulent focus. However, some signs of metastasis in the lungs with hæmoptysis give cause for anxiety (pulmonary form of McEwan).

James Donelan.

(To be continued.)

Dunn, J. (Richmond, Va.).—*Purulent Mastoiditis complicated by Epidural, Subpetrous, and Post-Esophageal Abscesses. Death presumably from Internal Hæmorrhage.* "Archives of Otology," December, 1898.

AN instructive case is narrated in which the symptoms were local pain of five weeks' duration, with fever, but no known discharge from the ear. There was tenderness over the mastoid, most marked at the tip, and a swelling of the posterior wall of the meatus. On mastoid operation the bone was found infiltrated with pus and granulations, but there was no pus in the antrum. Very little relief followed, and subsequent operations revealed pus in the groove for the sinus. In a later operation a probe passed through the meatus into an abscess of some size, presumably arising in the attic. Difficulty in swallowing and pain behind the larynx led to the discovery of another collection of pus on the under-surface of the temporal bone. The mouth could not be opened, so that the pharynx was inaccessible to examination. Local improvement took place, but the general condition remained unsatisfactory. Some hæmorrhage from the bowel (attributed to the exhibition of turpentine) occurred, and, later, death ensued. The case was one of Bezold's mastoiditis of unusual complexity. (The detailed description of the difficulties which present themselves in such a case as this is most instructive, and must appeal to all those whose experience has been at all extensive.—D. G.) *Dundas Grant.*

Dunn, J. (Richmond, Va.).—*Purulent Thrombosis of the Lateral Sinus Epidural Abscess. Extensive Subperiosteal Abscess with Edema of the Scalp, Face, and Neck. Operation. Recovery.* "Archives of Otology," December, 1898.

A CASE is narrated in which the subject of repeated purulent otitis had a pyæmic temperature, and extreme cellulitis of the scalp. When operation was performed the mastoid was found to be transformed into a cheesy mass, and to communicate with an epidural abscess and the interior of the lateral sinus. The latter was scraped out with a spoon, in the direction of the bulb, till free flow of blood took place. No attempt was made to ligature the internal jugular. There was temporary paralysis of the external rectus. Recovery eventually took place. *Dundas Grant.*

Goldstein.—*The Modern Therapy of Suppurative Otitis Media.* "Laryngoscope," December, 1898.

THE author, discussing the advantages and disadvantages of dry treatment and irrigation or syringing respectively, says that when the pus is copious, thick and ropy, syringing gently with a mild, warm, antiseptic fluid is advocated to clear the canal to the surface of the membrana tympani, but in most cases of purulent otitis he finds dry cleansing more useful, and the small tuft of sterilized cotton on a probe is more effective than a large current of antiseptic fluid. Where the perforation is large, irrigation may force infection into previously healthy points, and possibly is frequently responsible for mastoid infection.

Dry treatment prevents infiltration and softening of the mucous membrane, a condition invariably produced by frequent irrigation of a pathologic mucous membrane. This stimulation and irritation by

fluids causes granulations and polypus formation—a tendency reduced by dry treatment to a minimum.

The author first cleanses the canal thoroughly with a mop. If there is a small perforation and no pain, he frequently uses the Eustachian catheter in conjunction with a Globe nebulizer, with iodine 3 grs., carbolic acid 4 grs., and benzoinol 1 oz., and by steady inflation frequently succeeds in forcing the residue of secretion through the perforation, and at the same time in applying the antiseptic to the mucous membrane. In addition, suction by Siegle's speculum may be used if there is but little apparent congestion. After each cleansing, the author applies nosophen in preference to boracic acid or iodoform. He refers to the advantages possessed by nosophen.

Where there are large perforations he has used successfully the dry-gauze tampon, as advocated by Dr. Alice Ewing.

The only fluid medications he has used liberally are saturated solution of boracic acid in absolute alcohol, and hydrozone. The former reduces small granulations in chronic middle-ear suppuration, and the latter (hydrozone) reaches pus-pockets which neither the mop nor syringe can reach. These are applied with the medicine-dropper in preference to the syringe.

The nasopharynx should be carefully cleansed and antiseptized in the treatment of suppurative otitis media.

R. M. Fenn.

Krebs, G. (Hildesheim).—*The Weighing of Indications for the Radical Operation in Chronic Suppurative Otitis.* "Monatsschrift für Ohrenheilkunde," September, 1898.

"OTHERWISE incurable suppuration of the attic, aditus, or antrum," said Stacke. The whole thing turns upon what is "otherwise incurable."

To determine whether the attic and antrum are diseased in cases in which the membrane and ossicles are destroyed, Krebs gives the following "wrinkle": Pack a strip of gauze in against the promontory, and fill the meatus with it. When this is removed in a simple case the parts are left clean and dry, but if the attic or antrum is diseased, a drop of pus will be seen at the entrance of the affected cavity—i.e., above and in front in the case of the attic, above and behind in the case of the antrum. Often a drop of pus may be seen in both situations, separated by a clean part of the inner wall above the promontory.

Stacke recommends his operation in the following cases:

(1) Old suppuration, with destruction of deeper part of upper and posterior wall of meatus, so that a probe can be passed round into the antrum, and bare bone felt. Nature has already opened up the attic and antrum, and, according to Krebs, the free use of a sharp spoon is often all that is necessary.

(2) Cases of fœtid suppuration, with an adherent scar over the mastoid. This group must be subdivided: (a) Those with good hearing should be operated on at once; (b) those whose hearing is bad or gone may be submitted to conservative treatment with fair hope of success.

William Lamb.

Lewis, R. (New York).—*Two Cases of Mastoid Disease of an Uncommon Character.* "Arch. of Otol.," October, 1898.

THE first was a case of cholesteatoma, which manifested itself in an old-standing suppurative otitis as an abscess below the mastoid. It was successfully treated by the "radical" operation. A curious com-

plication was the extrusion through a submastoid abscess of a pin which the patient had swallowed seven years before. The subsequent abscess pointed at the same side.

The second case is described as one of tuberculous extra-dural abscess. This was revealed on the performance of the mastoid operation, and was very thoroughly evacuated, with temporary relief. Two days later drowsiness came on, and after another twenty-four hours it was decided to explore the brain for a possible abscess. At the beginning of this operation the patient ceased breathing; the cerebrum was rapidly explored—not the cerebellum—and in spite of artificial respiration, strychnine, atropine, and faradism, death ensued. Unfortunately, no post-mortem was obtained. [In a case of the abstractor's, in which the signs appeared to point unmistakably to a temporo-sphenoidal abscess, exploration of the cerebellum was unfortunately postponed till the next day. The patient died almost suddenly in the interval from cessation of respiration. Post-mortem examination revealed an abscess in the cerebellum. He determined that for the future he would never postpone the exploration of the cerebellum, and that cessation of respiration would be a reason the more for hurrying on that exploration, artificial respiration being practised as required. He would suggest a similar explanation—subtentorial disease—in Dr. Lewis's instructive case.—D. G.]

Dundas Grant.

Löhnberg, Dr. (Zwittau).—*An Apparatus for Vibratory Massage of the Ear and Nose suitable for Use by the Patient.* "Monatschrift für Ohrenheilkunde," August, 1898.

THE apparatus was designed by Dr. Noebel, and can be fitted to any ordinary treadle sewing-machine.

To the axle of the self-winder is clamped a small crank, which is attached to the piston-rod of a little cylinder, such as one sees in toy engines. The cylinder is fixed to the stand of the sewing-machine, and from the cylinder an india-rubber tube leads to the ear- or nose-piece. The ear-piece is an olive-shaped nozzle, open at the end, and intended to fit the meatus exactly. The nose-piece is a little round rubber ball (closed), which is lubricated with menthol-oil, and introduced into the nasal cavity.

When the treadle is worked moderately fast, the piston delivers about 600 strokes per minute, and these strokes are, of course, transmitted along the air-tube leading from the cylinder to the ear- or nose-piece. Two to five minutes three times a day is sufficient.

Löwe, Bauzenstrasse 4, Zwittau, is the maker. William Lamb.

Lubarsch, O. (Rostock).—*Chloroma in the Temporal Region.* "Archives of Otology," October, 1898.

(THIS is the detailed account of the tumour the history of which was abstracted from Professor Körner's report in the *Journal of Laryngology*, vol. iii.)

The growth occupied, among other parts, the internal auditory meatus, the petrous bone, the sigmoid sinus, and the temporal muscles. The cervical lymphatic glands were much enlarged. The pigment did not, in the author's opinion, depend on the presence of fat granules, nor did it arise from hæmorrhage. He considered it more analogous to the parenchymatous pigmentation associated with green pus, and to the green discoloration sometimes observed in leucæmic tumours. The

nature of the growth was more lymphoid than sarcomatous. Nine references are appended.

Dundas Grant.

Manasse, P. (Strasburg).—*On Cartilaginous Interglobular Cavities in the Capsule of the Human Labyrinth.* "Archives of Otology," October, 1898.

THE writer observed in the cochlear capsule of a pathological labyrinth numerous peculiar large ramifying cavities, firmly imbedded in the bone, always in the vicinity of the cochlear turn, and filled throughout with hyaline cartilage. Further investigation led him to the conclusion that these are interglobular spaces which, in other bony structures, are only met with in the bones of the fœtus or very young child, but which in the labyrinthine capsule persist until late in life.

Dundas Grant.

Morf, J. (Winterthur).—*The Affections of the Ear in Acute and Chronic Bright's Disease.* "Archives of Otology," October, 1898.

THE author has collected 53 cases from literature and added 3 of his own. He divides cases into two groups—those in which there are evidences of pathological changes in the ear, as revealed by macroscopic, microscopic, or functional examination, and those in which no tissue-changes can be found. Inflammatory and hæmorrhagic conditions are sometimes evident, but frequently the proximate nature of the cause of the symptoms is a matter for conjecture, such as increased pressure from arterial tension, œdema, or uræmic poison. The author is in favour of the last, and considers dulness of hearing a symptom of approaching uræmia analogous to amblyopia. In the 56 cases collected the forms of nephritis as diagnosed were as follows:

Acute nephritis	...	...	4 times.
Chronic parenchymatous	...	...	9 "
Chronic interstitial	...	...	11 "
"Chronic nephritis"	...	...	32 "

The deafness usually follows an exacerbation of the kidney, and is said by some to be most marked on the side on which the facial œdema is the greater. A late form of scarlatinal otitis is, according to Voss, attributable to the nephritis more than to the fever. In many cases the renal symptoms are so marked that the diagnosis is obvious, but in others they are so inconspicuous that the deafness may be the only symptom. In the cases in which there is no objective aural lesion, the auditory nerve in its peripheral and central distribution seems to be the seat of the affection. Such cases improve as the nephritis improves, and treatment is to be directed towards the combating of the renal and the aural disease simultaneously. (Among the symptoms the vertigo, which is sometimes very marked, is not referred to. In the light of this important paper the duty of examining the urine in all disturbances of the auditory organ without known cause is obviously imperative.—D. G.)

Dundas Grant.

Preysing, H. (Rostock).—*Two Cases of Pachymeningitis Externa and Extra-dural Abscess occurring in Acute Mastoid Disease.* "Archives of Otology," October, 1898.

THESE were cases of acute median otitis. Paracentesis gave vent to a serous discharge, which soon became purulent. The symptoms called for operation on the mastoid process, during which the cranial cavity

was entered, pus escaping in considerable quantity. The antrum was not opened. Recovery took place. The author considers these to be cases of acute inflammation of the compact osseous portion of the mastoid process.

Dundas Grant.

Pritchard, U., and Cheatle, A. (London).—*The Onset of Inherited Syphilitic Deafness.* "Archives of Otology," October, 1898.

THE typical mode of onset is a rapidly developed nerve deafness without giddiness, generally preceded, but occasionally followed, by interstitial keratitis, and accompanied by the characteristic teeth. In such cases, which are by far the most common, the probability is that there is periostitic or ostitic thickening of the bony structures of the labyrinth. In rare cases the disease is ushered in by attacks of giddiness of the Ménière type, and may run an acute, subacute, or chronic course. In the acute form the deafness is due to an immediate destruction of the labyrinth and nerve-endings by pressure of exudation alone; in the subacute and chronic cases to a constantly recurring increase of tension, and to changes in the exudation itself acting on the labyrinth and nerve-endings. The cases without giddiness are due to changes analogous to those of tertiary syphilis, whereas the others are very comparable to the lesions of the secondary period. This interesting paper is accompanied by illustrative cases.

Dundas Grant.

Snow, S. F.—*Modern Possibilities in Chronic Catarrhal Deafness.* "The Laryngoscope," December, 1898.

THE author regrets the dismal prognosis usually given in cases of chronic catarrhal deafness, and believes that in a good percentage of cases there may be happy results, if not a complete cure, by *thorough removal* of pathological conditions within the nose and adjacent cavities, followed by the use of proper stimulating sprays to the nasal membranes, and vapours to the Eustachian tube, from month to month and, if necessary, from year to year. He objects to the shortness of the six weeks' trial usually recommended in these cases. He believes, too, that diminished bone conduction is not always unfavourable. He selects three cases, and describes them. The first is Miss M—, aged twenty-four, with much deafness in right ear, six years; in left, three years. After three years and nine months of treatment, with varying regularity, the left ear had gained 12 inches for whispered and 16 inches for spoken voice; the right ear 14 inches for whispered and 24 inches for spoken voice.

Prof. C—, forty years of age, had been thirteen years deaf. Temporarily relieved by Valsalva's inflation. After two and a half years of treatment there was a gain for whispered voice, right ear 50 inches and left ear 115 inches.

Mrs. A—, aged fifty-three; deafness both ears, right for fifteen years. After four and a quarter years there was a gain for the spoken voice of right ear 44 inches and left ear 23 feet.

Each case presented well-marked pathological conditions within the nose, and in all three cases the usual method of inflation and vaporizing, etc., had been tried for two months without material benefit. The first case showed much improvement, obtained in five weeks from daily treatment.

The author refers to various points of interest in each case, and suggests that the question in prognosis is not so much whether an atrophic or hypertrophic condition exists, but whether the deafness primarily

occurred as a catarrhal inflammation, or whether there is so much fixation of the ossicles as to *preclude* a possibility of relief except through operative procedures.

The treatment of catarrhal deafness may be divided into three stages: (1) The stage in which the necessary operations are done; (2) the stage in which we await the result on nasal and post-nasal membranes of operative work; (3) the stage in which the membranes have acquired an inherent power to throw off inflammations. In the first two stages but little improvement can be expected.

There is nothing particularly new in the methods employed. The use of iodol and ether spray, and of the vapour of camphor and iodine for injection through the Eustachian tube, appears to be serviceable.

R. M. Fenn.

Stankowski, Dr. (Freiburg).—*On Bilateral Rupture of the Membrana Tympani.* "Monatschrift für Ohrenheilkunde," August, 1898.

HE includes only ruptures which are practically simultaneous, occurring on the same occasion and from the same cause.

They may be spontaneous or traumatic, and the latter may be direct, as when the membrane is actually struck, or indirect, as when the rupture is produced by alterations of air-pressure or from head injury.

Bilateral Spontaneous Rupture has only once been recorded. It occurred during a paroxysm of coughing in a man with emphysema. There was bleeding from both ears, followed by deafness and some tinnitus. Sneezing, whooping-cough, etc., probably sometimes cause rupture, but not in healthy membranes.

Most Bilateral Ruptures arise from Compression of the Air in the External Meatus.—Four cases have been recorded:

(1) Moos's case, caused by an explosion of gas. Recovery was incomplete; some tinnitus persisted, and there was probably labyrinthine disease.

(2) Keller's case followed a boiler explosion. The ruptures healed, but the hearing was much impaired, both as regards air and bone conduction. The labyrinthine symptoms did not as usual appear at once, but after a time, whence he concludes that the original injury to the labyrinth was hæmorrhage, followed by inflammation and exudation, damaging the nerve-endings.

(3) and (4) Beinert's and Colles's cases were caused by explosions. They were not exactly observed. Stankowski has observed one case due to the bursting of a boiler, and two cases caused by a box on the ear. He concludes as follows: A box on the ear acts generally by compressing the air in the external meatus; but if violent, the concussion may be so severe as to cause rupture of the membrana tympani of the opposite side, the vibration reaching the membrane through the annulus tympanicus. Such ruptures—unilateral or bilateral—may occur either with or without fracture of the skull. Ruptures from communicated vibration, with or without fracture, are generally situated near the circumference of the membrane, while ruptures from compression of the air are generally found near the centre of the membrane.

Bilateral rupture without fracture of the temporal bone or meatus is certainly very rare.

Morrison Ray records a case of bilateral rupture of the membrana tympani from a fall. At first there was bleeding, but afterwards (on

the fourth day) an escape of pale straw-coloured (cerebro-spinal?) fluid. As recovery was complete, the fractures probably involved only the tegmen tympani, certainly not the labyrinth.

The *Prognosis of Double Ruptures* is not worse than that of single ones—in fact, it is often better, for they are generally the result of indirect violence, and heal without suppuration; while unilateral ruptures are frequently the result of direct violence, and as a rule suppurate. When, however, bilateral ruptures are complicated with fissures of the temporal bone and labyrinthine changes, they are of grave prognosis, both as regards hearing and life. *William Lamb.*

Stein, O. J. (Chicago).—*Vertigo: especially as related to Nasal Diseases.* "Laryngoscope," December, 1898.

Mr. F——, tailor, forty-nine years of age, consulted the author on August 1, 1897, after having undergone a variety of treatment for three months for increasing vertigo. He had from one to three attacks daily, accompanied by a distant buzzing tinnitus. He tended to fall at such times, was unable to work, but never had vomiting or paresis, or loss of consciousness. He became depressed and alarmed. He had good family and personal history. His eyes were healthy.

The nose showed hypertrophic rhinitis, especially in the right middle turbinal, septum somewhat deflected to left. The naso-pharynx was catarrhal and hypersensitive. The mucous membrane of both nares was hyperæsthetic. Examination with a probe would at certain spots elicit a spasmodic cough, and at times a sense of giddiness.

Hearing: right ear good, left ear defective; drumhead slightly retracted. The left Eustachian tube difficult to inflate as a rule. Local treatment, with iodides and bromides internally, gave but little relief. Turbinotomy of the right middle turbinal, followed by cauterizations of the inferior turbinal, caused marked cessation of vertigo. Hearing, if anything, is slightly worse; the tinnitus, quite severe of late, now responds to bromides. No vertigo now for one year.

The author then discusses the diagnosis in this case; the theory of the cause of vertigo (rejecting the teaching of Fluorens and Goltz, that the labyrinth is the seat of the organ of equilibration which regulates all our movements in space) and the question of sensitive areas in the nose. He believes that the nostrils are not endowed with any special sensitive spots, but when such a condition is manifest there exists a hypersensitive condition due to a morbid state of the nervous supply of that part, and its location may be at almost any place in the nostril.

The author enumerates eighteen pathological conditions caused by nasal irritation. He believes the mode of production of vertigo of nasal origin may be as follows: The irritant is received at the hypersensitive station in the nose, whence the impulse is sent along some branch of the trigeminus, or of Meckel's ganglion, and by connection with the sympathetic reaches the vertiginous centre or centres. The afferent impulse is reflected along a vaso-motor nerve, producing an alteration in blood-pressure in the equilibrium and co-ordination centres. This acts as an irritant to the centre, disturbing its function.

R. M. Fenn.

Tattler, R. (Cincinnati).—*A Contribution to the Surgery of the Temporal Bone.* "Archives of Otology," December, 1898.

THE writer starts with an unusually detailed account of those cases to which the term "mastoid neuralgia" may be applied. He divides

them into two groups, the first being the purely neurotic, the second a smaller one in which the neurotic element is less dominant, but in which surgical treatment leads to the discovery that a former, and in most instances remote, pathological process has been present and left its traces. Of these pathological processes the following are the forms he has met with: 1. Hyperostosis or sclerosis of the cortical region of the mastoid, with partial or complete obliteration of the pneumatic spores and antrum. 2. Rarefaction of the superficial and deeper cells, with atrophy of the cortex and desiccation or atrophy of the lining membrane of the cells. 3. No apparent lesion of the cells, but the presence of desiccated bone or other products in the antrum or posterior pneumatic cells affording evidence to warrant the assumption that free communication between the superficial and deeper cells had thereby been interrupted. In this third subdivision he considers the changes so slight that they hardly account for the extreme pain, and the cases are almost on a footing with the first group or pure neuroses. All are resistant to treatment of every kind except surgery, though in the purely neurotic cases this is mainly suggestive in its action.

Certain cases of chronic empyema of the mastoid antrum are next dealt with. In one there was great surface tenderness of the auricle and region round the ear, but no redness or swelling, and no constitutional disturbance. On operation there was found a thick vascular, but rather brittle, cortex, and, what was unexpected, an enormous collection of pus. In this case there was chronic catarrh of the middle ear, with patulous Eustachian tubes, and syphilitic ulceration of the throat. Inflation had been practised, and the author believes that infective material from the throat had been blown through the Eustachian tubes into the mastoid spaces.

Dundas Grant.

Trautmann, Dr. G. (Munich).—*Foreign Body in the Eustachian Tube.* "Münchener Medicinische Wochenschrift," No. 47, 1898.

PATIENT a year before coming under observation suddenly acquired pain on swallowing and gradual deafness; later, headache, vertigo, feeling of pressure in the right ear, and pain between the throat and ear. Three weeks afterwards acute otitis, followed by suppuration, which disappeared and then recurred along with tinnitus, especially at night, vertigo and burning feeling in the throat.

On examination the lips of the right Eustachian tube were much swollen, the orifice was closed with a mucous plug, and the mucous membrane around was intensely hyperemic and covered with a few crusts. The right auditory meatus was full of muco-purulent secretion. On syringing the patient spat out a cherry-stone, which had been forced out of the pharyngeal end. The cause of impaction was not apparent from the history.

Gübl.

Whiting, F. (New York).—*A Contribution to the Clinical Stages and to the Technique of the Operation for Sinus Thrombosis.* "Archives of Otology," December, 1898.

THE writer's views, as a progressive in the surgical treatment of sinus thrombosis, were expressed in an article in the "Archives of Otology" and abstracted in the *Journal of Laryngology*. The present paper is concerned with the clinical stages of sinus thrombosis, and with the technique of the operation for the relief of the same.

As to the clinical stages, they are three in number. In the *first*

there is the presence of a thrombus, parietal or complete, not having undergone disintegration, and accompanied by slight or moderate pyrexia, rigors being usually insignificant or absent. This is, as a rule, only recognised when the operation for mastoiditis has been performed. If recognised, operation is called for, as no phlebitic clot can, according to the author, be regarded as non-infective. The *second* stage is characterized by the presence of a thrombus which has undergone disintegration, with resulting systemic absorption, and consequent frequent signs and pronounced septico-pyæmic fluctuations of temperature. The various classical symptoms are discussed. In the *third* stage there is the presence of a thrombus, parietal or complete, which has undergone disintegration with systemic absorption, accompanied by rigors, rapid and great fluctuations of temperature, and central or peripheral embolic metastasis, terminating usually in septic pneumonia or enteritis. The lungs are attacked with a frequency $1\frac{1}{2}$ times greater than the combined other structures of the body.

In regard to the operation, the sinus should, as a rule, be exposed for two inches, and as low as the jugular foramen, avoiding the posterior condylar foramen behind, and the lower third of the Fallopiian canal in front. If there is an *incomplete or parietal thrombus* it should be entirely removed. Before incision the vessel is to be compressed at its lower part by means of a plug of gauze, whereas at its upper part the pressure must only be made by a small pad beneath the left index-finger of the operator. In case of a *completely obstructing thrombus* at the "knee," or in its vicinity, complete removal is also advocated. A caution is given to make a careful scrutiny for respiratory movements between the clot and the jugular bulb, as a too sudden removal of the clot may in their presence lead to suction of air into the vein. In regard to a completely obstructing thrombus extending into the bulb, or involving the jugular vein, circulation should first be established at the upper extremity, afterwards below. When the thrombus is low down in the bulb, and the sinus above is filled with fluid blood, the writer detects the obstruction by stripping back the blood in the sinus from the foramen lacerum towards the torcular, compressing the channel with the finger of one hand near the foramen, and with that of the other near the torcular. At the same time an assistant compresses the jugular in the neck, after having stripped its contents downwards. The finger at the foramen lacerum is then removed, and if the jugular bulb is free the sinus quickly fills with blood, but if this does not take place a diagnosis may be made of thrombotic occlusion of the jugular bulb. In such a case the writer ligates the jugular low down in the neck, and close up to the base of the skull, and resects the portion thus delimited. The bulb is then washed out from above, not from below. (The abstractor looks for fluctuation between one finger on the exposed sinus and another on the internal jugular vein.—D. G.) Among other practical hints are the value of intra-venous infusion of saline fluid in case of flagging of the heart, and raising of the foot of the bed to equalize the blood-pressure. Rapidity in operating is strongly insisted on.

Dundas Grant.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

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WEHNELT'S NEW INTERRUPTER: IMPROVEMENT IN X-RAY APPARATUS.

BY J. MACINTYRE, M.B., F.R.S.E.

WORKERS in our special department will be pleased to learn that a very great improvement in technique has been made this year. For this we are indebted to Dr. Wehnelt, of Charlottenburg, whose article upon the subject will be found in the *Elektrotechnische Zeitschrift* of January 22, 1899. The great advantages of this interrupter are: firstly, simplicity in construction; secondly, great increase in the efficiency of the coil; and, thirdly, cheapness. It has been well known in the past that coils did not give anything like a fair return for the amount of energy passing to them, but in this respect the new interrupter surpasses anything we have previously possessed. The reduction in the time of exposure when photographing is marvellous, while the number of interruptions per second, amounting as they do sometimes to 1,500 per second, give a steadiness upon the fluorescent screen equal to the "Wimshurst." It naturally follows that the examination of the nose, accessory cavities, larynx, and chest for foreign bodies will be greatly facilitated, and, as far as we have already seen, diagnosis of lesions in the soft tissues will also be greatly improved. Coils of any size will now be capable of exciting Crookes' tubes hitherto beyond their range—a matter of great importance where portability is concerned. We can vary the frequency of the interruptions and other conditions of the tube by the intensity of the current going to the primary coil, by

difference in the size of the electrodes, by the electrolyte itself, by the distance between the electrodes, and the number of so-called active electrodes. All sizes of tubes can, therefore, be used with safety, and, in fact, the new instrument bids fair to be most easily controlled. The instrument itself is practically an ordinary cell, consisting of dissimilar metals in an acid solution. As a rule, the one is made of lead and the other of platinum, the former being large and the latter very small. The principle involved is described as follows: "If a current be sent by means of two electrodes of unequal surface through an electrolyte, the electro-motive force applied being considerably greater than the counter-electro-motive force of polarization, well-known light and heat phenomena may be observed on the electrode with the smaller surface. The latter is called the 'active electrode.'" Dr. Wehnelt found the interruptions in the cell were complete, and hence the power of utilizing it as an interrupter.

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary Meeting, February 3, 1899.

F. DE HAVILLAND HALL, M.D., *President, in the chair.*

Slight Defective Abduction of the Right Vocal Cord. Shown by Mr. H. BETHAM ROBINSON.

F. E——, aged thirty-seven, came on December 22, complaining of increasing weakness of his voice in singing for some three months, with some pain on the right side of his neck. There was no sore throat and no cough, but occasionally he had night-sweats.

His occupation is that of clerk, but he sings a good deal. No history of syphilis.

His father had disease of the knee-joint after an injury ten years before; for this it was excised and subsequently amputated, from which operation he succumbed.

On examination there was slight impaired abduction of the right cord with some injection of both cords; there was no other intralaryngeal lesion. On the right side of the neck, below the posterior part of the right ala of the thyroid cartilage, was some fulness and slight tenderness on pressure. There was no evidence

of any nerve lesion. The treatment was iodide of potassium and benzoin inhalations.

On January 19 his condition seemed decidedly better as far as the external fulness was concerned, and he remained in the same state when shown.

The lesion was regarded as an extralaryngeal infiltration mechanically interfering with the action of the right cord through involvement of muscle or hindrance of proper movement at crico-arytænoid articulation. This, in spite of its subsidence under iodide of potassium, was regarded as probably tuberculous.

Dr. DUNDAS GRANT considered that the defective movement of the right cord was due to mechanical fixation.

Mr. MILSOM REES thought that the appearance of defective abduction arose from a distortion of the larynx, the epiglottis being twisted.

The PRESIDENT remarked the right cord showed evidence of inflammatory changes ; and

Mr. ROBINSON, in reply, said that both cords were congested when the case first came under observation.

Tumour of the Right Vocal Cord. Case after Removal. Shown by Mr. H. BETHAM ROBINSON.

F. G——, aged forty-eight, was exhibited at the meeting on June 8, 1898, with a small sessile swelling on the right cord at the junction of its anterior third with the posterior two-thirds. It was convex, of a whitish colour, and compressible. Its removal was advised. This was accordingly done effectively with Grant's forceps under cocaine about ten days later. The tumour was very soft, and smashed up in the forceps, exuding a mucous fluid ; thus no microscopical examination could be made. Its nature was either a cyst containing mucus or a myxoma.

The patient had now complete absence of symptoms, and on examination his right cord would be pronounced normal.

The PRESIDENT congratulated Mr. Robinson on the excellent result.

Paralysis (? Complete) of the Left Cord. Shown by Dr. FURNISS POTTER.

The patient, a man aged forty-eight years, came under observation on January 3 last, complaining of hoarseness, which had come on gradually seven weeks previously. History of a "sore" twenty years ago, but none of rash, sore throat, or other sign indicating constitutional infection. Always had good health.

On examination the left cord was seen to be fixed and practically immovable in a position rather external to a line midway between the extremes of adduction and abduction. The left side of the soft palate was markedly paretic, there was some diminution of sensation, chiefly along the lower border; the tongue, when protruded, deviated to the left side; no affection of trapezius, sterno-mastoid, or orbicularis oris. There were slight lateral nystagmoid movements of the eyes; the knee-jerks appeared to respond rather too readily. Examination of the chest gave negative result. Patient had been taking ten-grain doses of iodide of potassium for the last month, but with no appreciable effect.

Sir FELIX SEMON asked why Dr. Potter hesitated to call the case complete recurrent paralysis. He regarded it as a perfect case, the left cord being in the typical cadaveric position.

Dr. HERBERT TILLEY thought that such cases as these tended to uphold clinically what had been experimentally proved by Horsley and Beevor, viz., that the nerve-supply of the palate, contractors of the pharynx, and probably the muscles of the larynx, was the spinal accessory. This was the fourth case of the kind the speaker had seen within two months, and he thought it was very doubtful if the facial nerve innervated the palate at all, as had until recently been taught in our schools.

Case of Ulcer of the Nasal Septum. Shown by Mr. BOWLBY.

Female aged thirty-two, married, and with several healthy children. No history of tubercle or syphilis, and no evidence of either. Had some swelling of the septum nasi about a year ago. This remained covered by normal mucous membrane for six or eight months, and recently has become ulcerated. There is now an ulcer about the size of a large pea at the upper part of the cartilage of the septum. It is not painful. There is no bare bone and no other disease of the nose. The ulceration progresses very slowly in depth, and not at all in extent. No tubercle bacilli have been found.

Dr. DUNDAS GRANT considered the perforation more irregular in outline than the typical perforating ulcer, and more suggestive of tubercle or lupus. This idea was confirmed by the patient's tint and the injurious influence of cold weather.

Dr. ST. CLAIR THOMSON agreed that the ulceration was situated too far in the nose to be a simple traumatic perforation from the irritation of dust or nose-picking. He thought that against the suggestion of syphilis was to be placed the consideration that the disease had lasted a considerable time without the progress which

is to be found in specific affections. The characteristic odour of nasal syphilis was also absent. He thought the indolent thickened margin and the situation both suggestive of tuberculosis. He had shown a similar case at the Clinical Society, where in portions of the removed granulations he had discovered typical giant-cells. In his case it had been objected that tubercle bacilli were not found in the sections, although carefully sought for. But as his patient had been treated with tuberculin and reacted strongly, he thought his diagnosis fully confirmed. Tuberculin might be used in the present case both for diagnostic and curative purposes.

Mr. WAGGETT said that the history of previous bilateral swelling and the presence of the much thickened and inflamed edges differentiated the ulcer in Mr. Bowlby's case from what was generally known as the perforating ulcer. The latter was characterized throughout its course by an atrophic process.

Dr. SCANES SPICER thought that the ulceration was probably syphilitic in nature, in spite of the absence of a characteristic stench.

The PRESIDENT said it was certainly not a case of ordinary atrophic ulceration. He had observed such cases from the commencement, and in one case had been able to predict a perforating ulcer. There was never previous thickening of the mucous membrane, but always atrophy.

Specimen of Abscess of the Larynx. Shown by Dr. DE HAVILLAND HALL.

The larynx shown was removed from a female aged seventeen. The patient was admitted into the Westminster Hospital on December 17, with acute Bright's disease and lobar pneumonia of septic origin. Shortly after admission she became hoarse, and suffered from dysphagia. A satisfactory laryngoscopic view was impossible on account of the patient's condition. She died December 24. At the necropsy about an ounce of dark green foetid pus escaped from around the larynx, the cartilages of which were quite necrosed; the abscess had recently perforated the larynx through a small aperture. Both lungs were pneumonic. There were old thin pericardial adhesions. The cardiac valves were normal with the exception of the mitral, round which was a ring of large coarse vegetations. In the right lobe of the liver was a hydatid cyst the size of an orange, containing hydatid membrane and thick olive-greenish viscid pus. The rest of the liver was febrile. The spleen and kidneys showed the ordinary changes of toxæmia.

Infant exhibiting a Peculiar Grunting Inspiratory Sound. Shown by Dr. WILLIAM HILL.

The noise was practically continuous, being just as well marked during sleep as at other times, but there was an occasional intermission during one or two respirations. The grunt was not affected by retracting the palate, and was, he believed, produced in some part of the larynx, and not in the trachea. He had not passed a Schroetter's tube into the larynx, but such a measure would serve to differentiate between a tracheal and laryngeal sound. He thought the case belonged to the group described by Dr. Gee and Dr. Lees, and more recently by Dr. Lack, and he accepted the latter's explanation (which was an amplification of Dr. Lees' theory of the influence of the epiglottis) that the vestibular structures were here exceptionally lax, and collapsed during inspiration. This could be seen by the aid of the mirror. The sound was unlike those produced in the glottic region, and there was no reason to suspect stenosis from paralysis, or from any intralaryngeal swelling.

The PRESIDENT did not consider the case agreed in all particulars with those described by Dr. Gee as cases of respiratory croaking in infants.

Sir FELIX SEMON thought that in this case the stridor was produced in the trachea, or at any rate below the larynx. He alluded to some recent papers pointing to enlargement of the thymus gland as the possible ætiological factor in such cases. He thought intubation would certainly settle the point as to whether the stridor arose in the larynx.

Mr. MILSOM REES remarked that the stridor ceased when the child cried, and asked if it continued in sleep.

Dr. LACK looked on the case as one of the milder forms of the affection commonly known as congenital laryngeal obstruction, and due, as in all such cases, to collapse of the vestibule aided by curling of the epiglottis. Where there was very marked obstruction, the inspiratory sound was "like a chicken crowing," and occasionally associated with slight expiratory stridor. In less-marked cases like Dr. Hill's the stridor was of a "purring," "grunting" character, with no expiratory sound. In all cases of tracheal obstruction due to pressure of an enlarged thymus, *expiratory* stridor only was present, or at any rate much more marked than *inspiratory*.

Dr. HILL said the stridor continued during sleep. He would give the child chloroform and ascertain if the stridor continued then, and intubate with a long tube so as to exclude a laryngeal origin for the sound. Personally he thought it appeared to arise from the parts above rather than below the larynx.

Case of Papillomata of the Larynx. Shown by Mr. RICHARD LAKE.

The patient has been hoarse for five years, but worse since an attack of typhoid fever last year. There is now a large papilloma in the anterior commissure springing from the right vocal cord, and also one of moderate size on the left vocal process.

Man aged fifty-one, shown at the November Meeting as a Case of Hypertrophic Laryngitis of Doubtful Nature, which is now seen to be Tuberculous. Shown by Dr. ST. CLAIR THOMSON.

The history of this case is described in the "Proceedings" for November, 1898, p. 2. At that period the patient presented no evidence of pulmonary tuberculosis, and some suspicions were expressed that the case was malignant, and it was advised that a portion of the growth should be removed for microscopic examination. This was done, but with a negative result. The patient was put upon large doses of iodide of potassium. An ulcer, very suspicious of tuberculosis, appeared on the epiglottis, and the patient rapidly wasted. Further examination showed commencing phthisis, and the expectoration, which had previously been absent, revealed numerous tubercle bacilli. The case was now evidently one of tuberculosis, and was shown as illustrative of the difficulties which this affection in the larynx might present. From this point of view the case was similar to the one shown by Mr. Stephen Paget at one of the meetings last year.

Dr. CLIFFORD BEALE asked if the œdema occurred suddenly in this patient, remarking that he had commonly observed its rapid onset in similar cases where iodide of potassium was prescribed. Once present, however, it remained, and thus differed from acute œdema.

The PRESIDENT suggested that the iodide could be used like tuberculin, as a diagnostic test for tubercle.

In reply, Dr. ST. CLAIR THOMSON said the development of œdema of the arytenoids was as Dr. Clifford Beale suggested; it occurred quite suddenly in one week.

Large Naso-pharyngeal Polypus. Shown by Dr. HERBERT TILLEY.

The polypus was removed from a woman aged forty-five. The post-nasal space was filled by the growth, and it extended by a nipple-like process below the level of the uvula, producing, especially at night, a feeling of suffocation. It was removed with Löwenberg's forceps, and the resulting hæmorrhage was slight.

Sir FELIX SEMON inquired if the polypus had undergone cystic

degeneration. In his experience, almost all nasal polypi which protruded into the post-nasal space contained larger or smaller cysts, whilst such were not nearly so frequently found in the myxomatous polypi situated in the nose itself.

Dr. HILL thought this was, properly speaking, a case of nasal, and not post-nasal, polypus. the growth apparently arising from the interior of the nose. Further, he objected to the term "myxoma" being applied to nasal polypi.

Sir FELIX SEMON said he had used the term inadvertently from old custom.

Dr. LACK said he had quite recently removed a nasal polypus protruding both from anterior and posterior nares, and very firm, with no cystic degeneration. The specimen was very similar to Dr. Tilley's in shape and size.

Dr. SPICER agreed that nearly all polypi springing from both anterior and posterior ends of the middle turbinate contain cysts, often eight to ten small ones. He suggested that large cysts are often dilated ethmoidal cells.

Mr. WAGGETT wished to corroborate Sir Felix Semon's statement that cysts were generally evident in polypi removed from this position. Moreover, small glandular cysts were to be found in the large majority of all nasal polypi.

In reply, Dr. TILLEY said that he removed the polypus with Löwenberg's forceps passed into the post-nasal space. He had used the term "naso-pharyngeal" in an anatomical sense, and not as indicative of the pathological nature of the new growth. The polypus contained one or two large cysts, and measured 5 inches in its longest, and $3\frac{1}{2}$ inches in its shortest, diameter.

Epitheliomatous Ulceration of the Naso-pharynx. Shown by Dr. HERBERT TILLEY.

The patient is a man aged fifty-five. He complains of difficulty in breathing through the nose, and an unpleasant discharge into the mouth, also general weakness.

The palate is seen to be immobile and almost vertical in direction, obviously due to something in the post-nasal space. Its free borders are so thickened and congested that only a small aperture, just sufficient to admit the index-finger to the naso-pharynx, is present. On introducing the finger the ulceration is very evident, and the discharge peculiarly offensive, reminding one of that which is so characteristic of advanced epitheliomatous disease of the tongue. There is an enlarged gland under the upper

part of the left sterno-mastoid. A mixture of iodide of potash and mercury perchloride during the last week has had no visible effect on the disease.

Dr. ST. CLAIR THOMSON had had a similar case in a patient aged thirty-four. He had considered it a case of late adenoids, although the growth appeared rather congested. Operation was attended with profuse hæmorrhage. The patient was seen a few months later with recurrence of the growth and enlarged glands in the neck. He died shortly after, and the diagnosis of epithelioma of Luschka's tonsil was confirmed by necropsy and microscopical examination.

Mr. MILSON REES had recently had a similar case.

Case of Empyema of the Antrum cured by Alveolar Irrigation after Failure of Intranasal Treatment. Shown by Dr. DUNDAS GRANT.

In this case an endeavour had been made to treat the condition by irrigations by means of cannulas introduced into the antrum through the inferior meatus according to Lichtwitz's method, but without bringing about any continuous cessation of the discharge. The condition obviously arose from disease of several teeth, the stumps of which were thoroughly removed. The alveolar puncture was then resorted to, and the patient irrigated her antrum night and morning without difficulty, with the result that extremely rapid improvement took place, and there was every prospect that eventually a cure would be effected. Dr. Grant brought forward this case to show that his advocacy of intranasal methods did not prevent him from recognising the value and unequalled convenience of the alveolar puncture in suitable cases.

Sir FELIX SEMON thought the Society should be very grateful to Dr. Grant for bringing this case forward, as a contrast to the one shown at the last meeting. Sometimes one method, sometimes another, was to be preferred; there was no royal road to success.

Dr. HILL and the PRESIDENT suggested this case was of dental origin, and therefore alveolar puncture was successful when intranasal failed.

In reply, Dr. GRANT stated that he had in that Society formulated the proposition that antral empyemata of dental origin should be treated through the alveolus, those of other origin through the nose.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND
OTOLOGICAL ASSOCIATION.

General Meeting, Friday, January 27, 1899.

Dr. MIDDLEMASS HUNT, *President, in the chair.*

Mr. LENNOX BROWNE exhibited a patient the subject of *Laryngeal Epithelioma of at least Two and a Half Years' Duration, which has not been submitted to Operation*, with the following remarks: This case, although entitled of two and a half years' duration, is really nearly five, for the patient had suffered from the main symptom for over two years before I first saw him.

In the recent fifth edition of my work I have stated that, with matured experience of all that may be gained by attempts at radical removal, I now advise a simple course of watchful inactivity in patients of advanced years, where respiration is not seriously embarrassed, and this case is exhibited as a favourable example of this policy.

The patient, who is a science tutor, came under my observation on October 26, 1896, when he was sixty-six years of age. He is now in his sixty-ninth year. The principal symptom was loss of voice, which had occurred suddenly two years previously, and had persisted. There is little or no cough, no expectoration, no dyspnœa, no difficulty in swallowing, and no pain, or even discomfort.

On laryngoscopic examination, the left vocal cord could not be seen, but the whole of the tissues on the left side were immovable, and presented the appearance of a large, irregular mass of somewhat heightened colour, and with warty surface. The right cord was also involved, but it moved freely. The laryngeal outskirts were much infiltrated. No glands could be detected externally, but there could be felt a slight outward spreading of the left thyroid wing. The family history is good, and there is no evidence of syphilis. Moreover, the patient has been a very temperate man, both with regard to stimulants and tobacco. The diagnosis was that of intrinsic epithelioma; but, looking to the age of the patient, I decided not to attempt eradication, nor, in the absence of any vital symptom, has there been any call for even tracheotomy, an active antisiphilitic course having confirmed the negative diagnosis in this direction.

The only treatment since adopted has been the internal administration of iron and arsenic.

January, 1899.—The present condition of the patient is that the laryngeal growth and infiltration are almost *in statu quo*; there is no ulceration, and there is no symptom of distress.

Independently of any effect of treatment, the cause of this quiescence is probably to be found in the purely intrinsic nature of the disease, and the consequent absence of lymphatic infection. I may add that the diagnosis, amply confirmed as it has been by my colleagues, has been made on purely clinical indications, for to remove a fragment for confirmatory purposes would be almost certain to arouse the present latency into activity.

In some respects this patient is an exceptionally favourable example, for, having been all his life the subject of eczema, he has taken a considerable quantity of arsenic, and has therefore been able to bear considerable doses of this drug. It is a point worthy of consideration whether the eczema may not have been, in some degree, a factor in the origin of the new growth; for, without being in the position to offer any definite or distinctive physical signs in the throat of an eczematous person, I am frequently in the habit, from the appearances presented, of accusing a patient of being the subject of such a skin affection.

A marked characteristic of this general well-being of this patient is the comparatively very slight depreciation in weight. The patient scaled 11 stone 2 pounds on his first visit to me, and he weighs this day—January 27, 1899—10 stone 2 pounds. He has been constant to this lower limit since last July. He has been recently at Hastings, where, not only, as also in London, has he spent—weather permitting—the whole day in the open air, but he has also been able to climb the hills with, as he puts it, no more pull on his breath than is usual to men of his age.

The PRESIDENT said the case was one of considerable interest from a diagnostic point of view. Most members present had inspected the case, and would no doubt be prepared to give their views on the nature of the case and on the question of treatment.

Dr. MACINTYRE (Glasgow) said he had not very much to say about the case, except that in many characters, clinically, some might be inclined to doubt the diagnosis. The growth did not seem to present the characters they would usually expect in an epithelioma after a duration of two and a half years. He supposed it was shown because it was not a typical case. It was not always safe to diagnose a growth as not malignant because it did not follow the ordinary course of malignancy. He remembered a case under his care at Glasgow in which a similar condition remained for four years. A medical friend was of opinion that it was a case of

chronic laryngitis. Another surgeon was seen, who suggested extirpation of the larynx. This the patient shrank from, and said he would prefer the case to take its course. Another period of six months elapsed, and then he came to see Dr. Macintyre again, when slight stenosis was taking place. It was thought something would soon occur to settle matters, and it did, in the following way: Dr. Macintyre said to the patient that if at any time he had any great difficulty in breathing, he was to see him at once. Shortly afterwards the patient was brought with severe and urgent dyspnoea. The clinical side was similar to that of the present case, and it tended to support the diagnosis of the case before them as epithelioma. The man was so ill he did not even wish to have tracheotomy performed. The patient survived, however, and was able to resume his business—a very extensive one—in three weeks. Altogether, the case was under observation for seven or eight years. Therefore, as the present case suggested his own so much, he would not be inclined to set aside the diagnosis of epithelioma. Still, from its appearance at present, there was a possibility of it being something else—what, he was not prepared to say.

Dr. VINRACE thought the case showed most conclusively that Mr. Lennox Browne's treatment had been right for such a case—viz., one of "watchful inactivity." Had that man been operated on three or four years ago, he was sure there would not have been the immunity he now enjoyed. The patient had practically been able to make the best use of life up to the present, and it showed that there should be no precipitancy in the matter of operation. It was wise to let such cases take their course until something further developed.

The PRESIDENT said his own view was very much that expressed by Dr. Macintyre. The disease seemed to be extensive and diffused, not originating from one focus, but from many points; nor was it like the ordinary course of epithelioma. It did not seem to him to have progressed from one side towards the rest of the larynx, and it looked more like a chronic inflammatory infection—whether due to syphilis or not he could not say. Again, it did not appear probable that a lesion so extensive would exist for four years without any breaking down. That and the fact that it had gone on for so long without causing stenosis did not agree with the general character and behaviour of epithelioma, or any other malignant growth; but he did not see any way of settling it excepting by microscopically examining a portion of the growth. They would all agree that Mr. Browne did quite right not to excise the larynx; on the clinical evidence present, no one would be justified in doing that.

Mr. LENNOX BROWNE could not say that the growth was definitely epithelioma, but that diagnosis was in agreement with that of all his colleagues, not one of them having any doubt as to its nature. As the symptoms dated two years previous to the first visit, one could not tell whether the disease began on one side or whether it originated at several foci; but the fact remained that it was now very little different from what it was two and a half years ago. The patient had been put under biniodide of mercury and local inunction, with the view of testing a syphilitic origin, but it had to be discontinued, as he rapidly deteriorated in health; and, indeed, there was no reason to suspect syphilis, nor did the appearances suggest it. As to the possibility of it being tubercle, the man had no cough and had not appreciably wasted; certainly there had been very little diminution in weight for epithelioma. Still, it was within one's experience that a purely intrinsic laryngeal epithelioma ran a more prolonged course than one involving the borders of the pharynx.

During the year that Sir Morell Mackenzie was absent in Germany he (Mr. Lennox Browne) had more consultations than he had had before or since in cases of suspected malignancy, especially in the aged. He also had long country journeys on account of patients having diagnosed their own condition through reading the accounts of the German Emperor's daily progress. He remembered one case near Tonbridge, the subject being a man of over seventy years of age. The doctor said he had been aware that the patient was the subject of cancer for the last four or five years, but, on account of his age and the impossibility of giving him effectual relief, he had never told him or his relatives. That was typical of several of the others seen at this epoch. The present patient had been a tutor; he was a well-educated man and a delightful character, and had said that, had it not been that his loss of voice deprived him of his living, he would not have had occasion to apply for relief on account of any other symptom. The speaker was glad to hear that the idea of not operating on account of the patient's age was generally approved; and, in spite of the President's successful operation on a gentleman aged eighty-one suffering from the same disease, this case was shown as exemplifying the rule which the speaker had elected to adopt.

Mr. JOHN BARK read *Notes of a Case of Cyst of the Laryngeal Ventricle* (with Drawing).

Mrs. W——, aged sixty-six years, came to me on March 13, 1897, complaining of hoarseness, which had been gradually increasing for

about twelve months. She was in very delicate health, having suffered for some years from cough and shortness of breath, due to chronic pulmonary emphysema and cardiac trouble.

The laryngoscopic image showed a globular, smooth, tense, opaline growth, with a broadish pedicle, and apparently springing from the right ventricle. It was about the size of a small pea, and during phonation its extremity passed between the ventricular band and vocal cord of the opposite side.

The patient, owing to her weak state of health, refused operation.

The drawing passed round, which very faithfully depicts the laryngeal image, was made by my colleague, Mr. F. C. Larkin, F.R.C.S.

Dr. GEORGE STOKER read a paper on *The Curative Treatment of Laryngeal Phthisis: a Suggestion.*

I believe I am correct in saying that the curative treatment of phthisical laryngitis is not at present satisfactory. We possess several means of palliative treatment, but cures are few and far between—if, indeed, they are ever effected. One may be tempted to conclude that if this particular local trouble is always secondary to pulmonary manifestations of tuberculosis, that then indeed our task is a hopeless one; but whether primary or secondary, it is still our duty to persevere and try every method of treatment that may offer any hope of success, or even be the starting-point from which that success may be ultimately achieved. It is with this intention I venture to offer the following remarks and suggestion, in the hope that some of those who have extended opportunities of putting it into practice may be encouraged to do so.

Starting with the belief that laryngeal phthisis is due to the presence of some special micro-organisms, or to the toxins or poisons they produce, the suggestion I have to make consists in the local use or application of these toxins after they have been oxidized. I prefer using the term “oxidized toxins” to that of “antitoxins.”

The reasons that have led up to this suggestion are the outcome of investigations made in reference to a treatment I have been engaged upon for the last five years.

It is reasonable to suppose that under healthy conditions certain micro-organisms may prove beneficial in maintaining health or promoting healing, but that under *un*healthy conditions these same micro-organisms may prove detrimental to health or prevent healing. Witness the *Bacillus coli*, as was pointed out by the late

Professor Kantach. It is also evident that the secretions or toxins produced by certain micro-organisms, which are in the first instance virulent and deadly, can be so altered as to prove beneficial, as is the case in, for instance, the bacillus of diphtheria. My contention is, that the most potent factor in bringing about such a change is the process of oxidation.

I may here mention that the method I pursue is to make a broth cultivation of bacteria taken from the affected part. This is incubated for fourteen days in an air-tight flask, when a stream of oxygen is passed through the broth for several hours. The organisms are then removed by filtration, and the remaining fluid applied to the affected part as often as experience directs.

I have found special interest in this method in cases of true lupus, and in cases of wounds and ulcers infected with the *Bacillus pyocyaneus*. In cases of lupus the part is first scraped, to remove as far as possible all diseased tissue, and oxygen is then applied by means of a gutta-percha mask as soon as bleeding has stopped. In all such cases reactions have occurred—reactions of essentially a toxic nature. From this it is concluded that the toxins produced on the wounds are oxidized and so altered as, when absorbed, to become antagonistic to the original poison. Acting on this conclusion, oxidized toxins were prepared and applied in various cases, lupoid and otherwise, with most beneficial results. These artificial oxidized toxins, if I may so call them, also produce reactions, not, however, so marked as by those produced on the wound. This may be accounted for by the fact that the chemical change takes place in the oxidizing flask, and not on the diseased surface.

The *Bacillus pyocyaneus* is, in my experience, the most persistent and most hostile to healing of any of the micro-organisms usually found in wounds or ulcers. I have known them to resist the usual germicides, including strong solutions of carbolic or boric acids, the double cyanides, and solution of hydrarg. perchlor. (1 in 500).

If a stream of oxygen is passed through a sterile broth no result is observed; if this same broth be inoculated with the *Bacillus pyocyaneus* and incubated without access of air in an air-tight flask for fourteen days, there is no change apparent beyond the usual cloudiness; but if a stream of oxygen is passed through the broth two important changes are observed: (1) The broth at once becomes a green colour, which deepens and intensifies as oxidation is continued. (2) The broth from being liquid becomes glutinous or semi-gelatinous. This shows that the bacilli have

modified the character of the broth, and that the oxygen has further altered the broth so modified.

The product of the bacilli plus oxygen is volatile; for if the stream of oxygen be discontinued after a few minutes, the broth will in a few hours resume its original colour, but if the stream of oxygen is continued for a few hours the colour becomes permanent. When this oxidized toxin is applied to the wounds or ulcers from which the bacilli were originally procured, the result is that after a short time the *Bacillus pyocyaneus* disappears, and only diplococci and staphylococci remain; this will be seen by reference to the slides under the microscopes. It would appear, therefore, that the surest germicide for the *Bacillus pyocyaneus* is its own oxidized toxin; and if this is true of one, why not of others?

I think, in the face of these facts, it is no longer possible to say that oxygen does not affect micro-organisms or their toxins.

I suggest, in view of the above, that in cases of laryngeal phthisis one should proceed to take a culture from the affected parts, make an oxidized toxin, and apply it frequently, and I trust that some of those present will see their way to carry out this suggestion.

Dr. STOKER added that he had under the microscope a pure growth of the *Bacillus pyocyaneus*, taken from a wound, and under another microscope was a cultivation taken from the wound fourteen days after the application of a broth prepared from the bacillus and oxidized. He also had a number of illustrations to show some remarkable instances of the cure of lupus.

Dr. R. H. WOODS (Dublin) showed a *Specimen of Cancer of the Right Vocal Cord removed by Thyrotomy* (with Microscopical Specimen).

Dr. WOODS said the specimen was one of epithelioma of the right vocal cord, which he took away by the operation of median thyrotomy from a patient aged seventy-four. The patient consulted him last September, complaining of hoarseness. He found he had a growth in the right vocal cord, and a piece was removed for microscopical examination. That was submitted to a pathologist, who reported that it was cancer. The man's ordinary medical attendant was not there at the time; but when he came home, he had no hesitation in saying it was not cancer, although he had not examined the larynx, and suggested that another opinion should be asked. This was consented to, but the medical attendant said he must be allowed to choose his own consultant. The patient was accordingly sent to Mr. Butlin, in London, armed with the slides of

the specimen which had been removed. Mr. Butlin examined the man, and agreed entirely with Dr. Woods' diagnosis. He (Dr. Woods) therefore operated on the patient on his return to Ireland. The operation was uneventful, and the patient was able to leave the hospital on the tenth day. The cancer was a squamous epithelioma of the ordinary variety, but the age of the patient and the rapidity with which he recovered were satisfactory points in the case. The patient was now quite well, and enjoying a holiday.

Mr. BARK asked whether he used a Hahn's tube, and whether he took it out immediately or left it in for some time.

Mr. LENNOX BROWNE, in reference to Dr. Woods' case, said he did not quite understand whether an expanded tube was used.

Dr. WOODS, in reply, said the tracheotomy-tube he used was quite an ordinary one, slightly modified—an ordinary bivalve tube which he had always used in these cases. The modification consisted in having a small tube attached to the front of it; that fitted into another tube shaped like an elbow or knuckle, fitted on to it, and to this chloroform apparatus was attached. The advantage of that was that, the tube being right-angled, the anæsthetist could bring the tube away from the hand of the operator, and thus leave him freedom of movement. In addition, it always happened in these tracheotomy operations that there was a good deal of coughing, and when expectoration got into the tube, by this arrangement the elbow could be lifted away and the tube cleared. As a matter of precaution the tube was left in for forty-eight hours, but the patient was not allowed to breathe through it. Instead of either taking the tube out or leaving it in, he effected a compromise and retained all the advantages of both methods, namely, by leaving the tracheotomy-tube in and corking it up, with diminished risk of inflammation and bronchitis. A pledget of sponge was inserted between the tracheotomy-tube and the larynx.

Mr. WYATT WINGRAVE exhibited *Microscopical Preparations illustrating Cholesteatomatous Changes associated with Chronic Suppuration of the Middle Ear.*

Mr. WINGRAVE said that in the course of a systematic examination of discharges he discovered that in almost every instance some epithelial scales were present, and that these scales retained carbol fuchsin, although they were passed through the usual washings of sulphuric acid. That in itself was an interesting fact, because there they had an old epithelial cell behaving in the same way as the tubercle bacillus itself. Another interesting feature was the preponderance of these epithelial scales in a great many of

the discharges; certainly two of every five of the scrapings that were taken presented a very high percentage of these epithelial cells. They were seen in all stages, from the very youngest epithelial cell, with its large nucleus, which stained very readily with methyl blue, to the older cell which stained slightly with fuchsin with a granular cyst underneath undergoing change. There was another in which the cell had a nucleus still, but was evidently undergoing fatty changes. From that they could go to cells in the initial stage, in which the nucleus entirely disappeared, and only a bright spot indicated where it originally existed. These growths from the early epithelial cell to the old typical fatty cell were a very satisfactory interpretation of the formation of cholesteatomata. It was very difficult to understand how cholesteatoma could be formed under granulation tissue, unless it were that the pus underwent caseous degeneration. But as in the antrum and other parts of the middle ear cholesteatomatous masses existed, epitheliomatous exfoliation, as was found in nearly all these cases of chronic suppuration of the middle ear, was a very interesting explanation. These scales were always associated with a number of bacteria, and it was during search for the bacillus of tubercle that he discovered the facts he had mentioned. In addition to those large cells, which were undoubtedly epithelial in character, one found occasionally other large cells, which were suggestive of osteoblast, giant-cells in which the bacilli were scattered about. These were mainly associated with bone changes, and must be distinguished from the large epithelial scales predominating in nearly all these sections.

Discussion on *The Value of General Treatment in Diseases of the Throat, Nose, and Ear*. Opened by Dr. BARCLAY BARON (Bristol)—*Pharynx and Larynx*; Mr. WYATT WINGRAVE—*Nose and Naso-pharynx*; Dr. R. H. WOODS (Dublin)—*The Ear*.

The PRESIDENT, after a few introductory remarks, called on Dr. Barclay Baron to open the discussion.

Dr. BARCLAY BARON, in opening the discussion concerning the pharynx and larynx, said he agreed with the remark of the President that they, especially in times past, had the name for relying too much upon local treatment in diseases of the pharynx and larynx, to the exclusion of the consideration of those organs as part of the general organism. He thought that discussion would at any rate enable them to set out, in no uncertain manner, that they were quite as fully alive to the fact that the pharynx and larynx are parts of the whole body as were any of their professional brethren. The

general treatment of throat disease was quite as important to specialists—in its place, and always going hand-in-hand with the most accurate local treatment—as it was to the general practitioner.

For his purpose, he thought he might roughly divide diseases of the larynx and pharynx into two groups—viz: (1) Those diseases which are definitely due, so far as is known, to the action of specific pathogenic micro-organisms; and (2) those which are not known to be so due.

In the first group he would take tuberculosis of the pharynx and larynx. In those regions he thought they would agree that tuberculosis was usually secondary to tuberculosis in other organs. It was, however, sometimes primary, though, he thought, much less often than was believed. He thought the trained eye of the laryngologist was distinctly more accurate than the trained ear of the man who practised auscultation or percussion. He believed in a good many of the so-called primary cases the affection of the larynx was cotemporaneous with phthisis elsewhere, principally in the lungs. They knew that phthisis laryngea is a curable disease in a certain proportion of cases. When they thought of the general treatment of tuberculosis as opposed to local treatment, they must see that that treatment had undergone very considerable modifications in the last twenty-five years or so. Twenty-five years ago tuberculous patients were carefully excluded from the open air in cold weather; they were kept in warm, close rooms, and when they were sent away to health resorts for a change, those in England selected were Ventnor, Penzance, Torquay, etc., all relaxing, enervating, and somewhat damp climates. If they were sent abroad, Egypt, Florida, etc., were selected. They now knew that treating this disease by exclusion from fresh air or by sending the patients to warm and moist places was not by any means satisfactory. Then came the era of high altitudes, starting with Davos, and that was distinctly more satisfactory than the former treatment. Then in 1882, when Koch discovered the bacillus of tuberculosis, an entirely new kind of treatment came in—viz., by preparations of mercury, iodoform, creasote, guaiacol, some of which had persisted up to the present time. The latest treatment of tuberculosis was by what is known as the open-air treatment, as practised in Nordrach, and also in other countries, and as is becoming general in England—viz., abundance of fresh air day and night, combined with the taking of large quantities of fat food, and it is, so far as is known, promising. He had seen patients in whom tubercle bacilli had been demonstrated, sent for two winters to Davos, and in whom, after their return, competent examination showed diminution and

gradual extinction of bacilli, until repeated examination failed to discover them in the sputum.

Now, of the whole of those methods of treatment in phthisis laryngea he would rely upon the open-air treatment, and not on the administration of germicides. He had never seen reason to believe that the administration of large doses of creasote, guaiacol, or its carbonate, was worth carrying out. In the majority of cases he had seen so treated the digestion was very seriously upset, and he had always been doubtful of any beneficial effect.

Then arose the treatment by tuberculin as an antitoxin. Of that he knew little or nothing since the series of experiments which a colleague of his and himself conducted with it, and where its administration was not satisfactory. He knew little or nothing of attenuated tuberculin from experience, nor of antiphthisine, nor of kindred drugs. With regard to high altitudes for phthisis laryngea, he thought if the throat was affected they should most scrupulously avoid sending their patients to those places. He saw patients at Davos whose throats were worse than before they went there, although the pulmonary condition had improved, the dry, cold air being so irritating to the larynx.

Next with regard to syphilis. Here there was very little room for divergence of opinion. Primary syphilis in the throat was a rare condition, while secondary and tertiary manifestations were extremely common. He supposed they all treated secondary syphilis with mercury. Personally he used liquor hydrarg. perchlor., with iodide of potassium added to it. He did not use mercury by inunction nor by hypodermic injection. In regard to the tertiary stage, principally iodide of potassium, with or without mercury, but in large doses, was what he relied upon.

With regard to diphtheria, long before the Klebs-Löffler bacillus was discovered the treatment of the disease had always been tonic, *i.e.*, keeping the patient alive, apart from local treatment, until the membranous process ceased to exist. The throat then became clean and the process ended. He supposed most of them used that kind of treatment now—iron, strychnine, digitalis, alcohol, etc.—but he would certainly also use antitoxin. His experience of anti-diphtheritic serum had been small, but it had been satisfactory. Speaking from the immense mass of statistics which had been published, and which were accumulating, he thought the facts went to show that, whilst they ought not to rely exclusively on its use, yet they had in it an extremely valuable adjunct to their armamentarium. The benefit of the antitoxin

was particularly marked in the early stage of the disease, *i.e.*, before the poison had accumulated to any marked extent in the blood, so that early recognition of the disease and administration of the remedy were imperative. Diphtheria is a generalized disease, attacking practically all organs, notably effecting some alteration in the nervous system, heart muscle, and kidney, and treatment adapted to help these organs must be kept in view. In the paralytic sequelæ of diphtheria, strychnia was the drug they all used. He was content with its administration by the mouth; he had given it hypodermically, but could not see what advantage that method possessed. Electricity really belonged more to local treatment than general.

Influenza was a general microbic disease, which gave rise to symptoms in the throat. He was extremely sceptical as to the value of drugs in influenza. Where there was great pain in the throat of a rheumatic character, and where, on examination of the throat, they did not see much to account for the pain beyond a little redness and swelling, salicylates and salicylate of quinine were of some value. Antipyrin he did not like at all, because it was depressing.

Then, with regard to that other throat condition often seen in hospitals—septic throat, or “ulcerated throat,” as it was called, or “spotted tonsils,” in which there was a discharge containing streptococci and other septic organisms—there was evidence in that condition of generalized poisoning: malaise, feverishness, headache, backache. He believed that disease was communicable, and therefore patients suffering from it should be separated from others. In his own opinion, it was not always a question of the inspiration of foul air, so much as one's system being out of order; *i.e.*, it was a question of ptomaine-poisoning. Therefore he thought an essential point was to cause the *primæ viæ* to act, and after that to give such drugs as iron, chlorate of potash, and quinine.

In the second, or non-organismal, group he would put, first, rheumatism. They knew now, although the profession at large did not yet seem to have thoroughly realized it, that a great many cases of acute tonsillitis which went on to the suppurative stage were rheumatic. If they treated such cases early with salicylates and guaiac, after giving a saline purge, suppuration usually did not occur. He believed rheumatism not only attacked the faucial and lingual tonsils, but he had seen it attack the crico-arytenoid joint very much as it would a knee-joint, causing redness, swelling, and immobility of the cord, with intense pain. But all the

symptoms rapidly subsided under the exhibition of salicylates. The analogy presented by some rheumatic cases and pyæmia was undeniable.

Then, with regard to gouty throat, he did not believe in that as an entity at all. Still, he did believe gouty people were more liable than non-gouty to a certain kind of throat trouble, but it was of the same kind as any person would get whose excretory organs were not acting properly, where the tongue is furred, the urine contains oxalates, phosphates or urates, and there is constipation. He did not think the latter cases could be differentiated from the so-called gouty ones. They all knew what was meant by "gouty throat"—large uvula, red palate, enlarged pharyngeal veins, granulations, enlargement of faucial and lingual tonsils, congestion of the larynx, with hoarseness. The treatment consisted in causing the excretory organs to act properly; the administration of alkalies and digestives; regulating the diet, especially as regards alcohol and smoking; mineral waters; and the use of baths.

With regard to lymphadenoma of the tonsils, in the free exhibition of arsenic he thought they had a fairly reliable remedy, but the doses must be as large as the patient would tolerate.

Regarding the larynx, if there was interference with cord movement, due to pressure on the recurrent laryngeal nerves, the cause of that pressure must be discovered and treated accordingly—*e.g.*, aneurysm, enlarged glands, malignant growth, pleuritic adhesions at apex of lung, etc. In cases where central lesions interfered with the innervation of the larynx, it was a question whether the cause of the trouble could be reached. For instance, a syphilitic growth in the brain had to be thought of, and treated *secundum artem*.

Hysteria and alcoholism had also be considered and treated. After laryngitis there was frequently disturbance of movement of the cord, and iodides and strychnia were of value. In pachydermia, he did not think iodides were of any use; rest to the larynx was the main point on which they had to rely.

In all throat affections, the influence of rest, freedom from worry, change of air and scene, and careful selection of a climate suitable to the peculiar temperament of the patient, were of the utmost value. The laryngologist, in other words, was quite as anxious to make his patient "feel fit," as is colloquially said, as was any other member of the profession, and often relied on this rather than on local treatment.

MR. WYATT WINGRAVE: To assert that, of the regions included in our speciality, perhaps none afford more scope for local treatment than the nose and naso-pharynx is to perpetrate a truism; and it is

doubtful that any surgeon could be found at the present day—whatever might have been in the past—whose convictions are so strong as to risk a charge of altruism by wilfully ignoring the value or neglecting the employment of general treatment.

To emphasize the value of general treatment in disease of the nose, naso-pharynx, or any other region, at the present day seems almost superfluous. In the hope, however, of doing justice to the subject and facilitating its discussion, I have ventured to adopt a classification arranged in three groups, and illustrated by a few examples :

1. Those diseases in whose treatment *local measures are indispensable* and of primary importance, yet the supplemental help of general treatment is expedient.

2. Those diseases in which *general treatment is indispensable* and takes precedence of local.

3. Those diseases which demand purely constitutional treatment.

We will first consider those diseases in which, although *local measures are indispensable*, the principles of general treatment as applied to other regions of the body must not be withheld.

The subject of polypi is perhaps one of the most interesting, since it may at once be said, Of what value can general treatment be in such a very local complaint? Polypi may be simply localized hyperplasiae of the mucous membrane, or they may be the outcome of transformation changes in granulation tissue. The first, or simple, variety may be interpreted as being the local expressions of dystrophic or catarrhal changes. The other may be associated with tuberculous and strumous dyscrasiae, which are so often responsible for the suppurative changes occurring in the ethmoid and other accessory sinuses.

In removing the polypi, therefore, in many instances the symptom alone is treated, and constitutional remedies are equally essential, although supplemental.

With regard to adenoids, the general treatment for the most part is post-operative, and will be directed chiefly towards restoring the functions which have been interfered with, and correcting the bad habits which have been developed by the obstruction.

The importance of this subject needs no emphasis in our Society. Yet experience shows that its importance is not yet fully appreciated by the non-specialist, and its application even in our own hospital practice is often far from satisfactory.

The difficulties in its application are due partly to want of

intelligence and perseverance on the part of the little patients' parents, or imperfections in our own directions, combined with a prevalent belief that the operation itself is sufficient for the cure.

Full, exhaustive, yet simple printed directions should be given, and their close attention firmly insisted upon, with reference to frequent and regular clearing of the nostrils and the use of appropriate exercises, such as the use of the skipping-rope, running, jumping, etc., with the lips closed, in the fresh air.

As these children are peculiarly "vulnerable," it is expedient to administer a mixture of salicylate and bromide of sodium, or one of biniodide of mercury, in small doses, for about one week after the operation for their antipyretic and sedative properties. Later, iron and iodine are indicated in the numerous instances of anæmia and gland-thickening.

All forms of *persistent* hypertrophy of the turbinals obviously demand active local measures, yet these should undoubtedly be supplemented by general treatment. This is specially seen in the vascular enlargement of the inferior turbinal, particularly its posterior portion, the chief site of cavernous tissue. This form of hypertrophy is not infrequently associated with a tendency to general plethora, low vascular tone, and imperfect pulmonary, cardiac, portal, and pelvic circulation. Consequently, correction of these irregularities by their appropriate remedies is an essential complement to the local measures. Catarrh of nasal, nasopharyngeal, and accessory nasal cavities, especially demands the supplemental aid of nerve tonics, stimulant expectorants, and careful attention to general hygiene, among which fresh air and exercise are all-important.

Epistaxis, due to bleeding tumours of the septum, to permanent turbinal engorgement, ulceration, etc., obviously demands active local treatment; yet the application of general measures is equally essential, by reducing vascular pressure and combating the co-existing and causal dyscrasie.

Malformations, whether traumatic, developmental, or neoplastic, should also be included in this group, since their rectification or removal equally demands the co-operation of constitutional treatment. This remark specially applies to those varieties of malformation which are associated with or due to diseases of malnutrition, rickets, etc.

Inferential *tubercle* has been already mentioned, yet this disease and its congener, *lupus*, specially claim our attention, since there may be some difference of opinion as to whether the local or general

treatment should be given priority. While lupus affords, perhaps, the more brilliant results to local measures, tuberculosis is more often associated with implication of distant organs; there is therefore a natural inclination to attach greater importance to its constitutional treatment, although, perhaps, no region affords better facilities for local treatment.

We may now pass on to consider a few illustrations of the second group — viz., *those diseases which, primarily demanding constitutional treatment, derive considerable benefit from local measures.*

Foremost in interest and perhaps importance is atrophic rhinitis. There may be some objection to its inclusion in this group, since many consider that local measures are of primary importance. Yet, from a belief that the disease is a local expression of constitutional influences, I have ventured to give prior position to its *general* treatment. For, though local applications may to a great extent succeed in removing the local symptoms, and may also, too, influence the local histological changes, their action is but transient if the benefits of sea-air, arsenic, iron, iodine, etc., are not employed in combating the attendant dyscrasie—anæmia, tuberculosis, etc.

On similar principles, we may include in this group different forms of paræsthesia, such as the gouty, dyspeptic, and those due to abuse of tobacco, tea, etc. Likewise periodic rhinitis, parosmia, epistaxis (leukæmic and plethoric), acute catarrhal rhinitis, and last, but not least, syphilis.

In considering the *third* group of diseases, which demand *purely constitutional treatment*, one must admit that such a restriction may at first be thought somewhat arbitrary, inasmuch as many of the diseases of these regions for which patients seek special advice are only symptomatic of disturbances originating in one or more of the other systems into which the body is anatomically and physiologically divided. This being so, relief of the symptoms by general treatment will most likely prove successful, and recourse to active local measures should only be made in the event of complete failure.

This may be illustrated by a case of nasal obstruction occurring in a youth or young woman with florid, swollen, and hyperæsthetic turbinals. The temptation of the cautery is great, yet a course of chalybeate aperients and strychnia, aided by fresh air, exercise, correction of errant functions, bad habits, and the use, perhaps, of a little menthol ointment, will generally prove quite sufficient.

Further, there are cases (*paræsthesiæ*) purely subjective in their nature, which always yield more or less readily to general treatment. In these any local measures, such as electro-cautery, swabbing, etc., may prove to be actually mischievous by concentrating the patient's attention upon the supposed seat of disease instead of distracting it. It is such cases which demand all our discrimination and judgment, since, on the other hand, a slight application of the cautery may eventually prove the more successful treatment.

To this group must be added cases of epistaxis associated with menstrual disturbance, anæmia, plethora, etc.; also the prominent and bulky red nose coincidental to puberty, gastro-intestinal disorders, alcohol, tea-drinking, etc., and the *paræsthesia* of the menopause.

Rightly or wrongly, specialists in our own as well as other branches of surgery are not infrequently charged with "narrowness," a fault aptly expressed in painting phraseology as "local" or "busy." The rhinologist may be so local and so busy with his turbinals as to justify the assumption that he is ignoring other organs which may be the real offenders.

Seeing the close interdependence which exists between the turbinals and the respiratory, vascular, nervous, and other systems, treatment cannot be satisfactory if those associations are disregarded.

No one will for a moment deny the value or the expediency of reducing a permanently enlarged turbinal by local measures, yet these structures afford a striking illustration of the value of *general* treatment when guided by a knowledge of the correlation of the developing parts.

During childhood the turbinals occupy a relatively larger share of the nasal cavities than they do in the adult, a disproportion which is maintained until the commencement of the second dentition. Coincidental with that period, about the sixth year, there is a rapid growth of the maxillæ and their associated cavities, with consequent enlargement of the nasal fossæ, the early disproportion rapidly disappearing.

At puberty there is a marked increase of the turbinal development, especially the lower ones, owing to their being the chief seat of cavernous tissue. The normal proportion is, however, gradually restored in the course of a few years.

These changes are not without their significance, and tell us that nasal obstruction may be associated with a series of purely

natural events, which if aided by general treatment, or even if left to themselves, terminate in spontaneous recovery.

Time has not permitted reference to more than a few diseases of these regions, and important omissions are obvious. Still, whatever differences in opinion there may be as to the expediency of the classification adopted, or of the relative positions accorded to general and local treatment, I feel sure that you will not permit the value of general treatment to be depreciated by any shortcoming of the method adopted in presenting it to you.

Dr. R. H. Woods (Dublin) :

The science of applied bacteriology has taught us that local infection, which used to be regarded as a condition with which the body in general had little to do, is by no means uninfluenced by what we understand as constitutional conditions.

We know that one of the chief, if not the principal factor in the resistance of bacterial invasion is that strange thing whose function we paraphrase in order to give it a name, and call "power of resistance," the highest expression of which is immunity, and that the likelihood of invasion supervening depends less on exposure to infection than on this entity.

As a general rule, anything that tends to weaken or make the patient feel unwell results at least in the first instance in lowering this power of resistance. Thus, in scarlatina and measles the middle ear is said to have a great tendency towards inflammation. This cannot be a purely local phenomenon for two reasons, though the proximity of the ear to the inflamed throat may sometimes be a factor of importance. In the first place, the ear, though infected, does not necessarily suppurate, which would almost certainly happen if due to direct infection from a destructive process in the throat; and, secondly, the micro-organism found in the ear when the drum ruptures is not a streptococcus—which is the commonest, if not the only, cause of the throat ulceration—but a diplococcus.

I am therefore inclined to regard inflammation of the middle ear in measles and scarlatina—at least, in the large proportion of cases—as due to the lowered vitality of the tissues from the general infective disorder affording the necessary opportunity to organisms which were compelled to lie quiescent in the drum while the health was good.

I have observed in these cases that the tendency to purulent otitis is greatly augmented by an ill-nourished or cachectic con-

dition of the patient; that before an abscess can be established a battle, of which inflammation is the evidence, must be fought between the microbes and the tissues, and that the microbe is not always victorious. I have observed very many cases of this kind, watching them day by day as the fight went on, but without interfering, and in as many as 40 per cent. have seen the microbe beaten and the inflammation subside as it began.

The importance of all this lies in the fact that this specific resistance appears to bear a definite relation to, and be influenced by, the patient's general health, and that, since the general health can be influenced by intelligent treatment, we have here a way of affecting his resistance, and therefore of controlling his liability to infection.

The truth of these propositions is, fortunately, not affected by the old difficulty, which is here present, of distinguishing between cause and effect. Whether increase of specific resistance is the cause or the result of good health, or whether they are associated effects of some common cause, we need not stop to consider. It is enough for our immediate purpose to know that good health and resistance vary directly. When a man says, "I feel fit," he only uses a popular equivalent for, "My power of resistance is fairly high," and it is notorious that people with this feeling are much less liable to sickness than those of the other kind, who are, as the term is, "run down."

Cases of chronic suppurative otitis media heal more quickly in my judgment when, in addition to the local antiseptic treatment, tonic internal remedies, especially iron, are given. In such cases the tympanum or its accessory cavities are occupied by greasy infective material, which it is next to impossible to sterilize, and there is a tendency for the discharge to reappear.

After the lapse of an indefinite interval, the patient catches cold, or for some reason allows his health to get below par, and the discharge becomes re-established. There can be little doubt that the physical cause of relapse in such a case is diminution of the force which kept the microbe in the drum at bay.

This is not the place for entering on the question, but I cannot help remarking that the laws which govern, and the conditions which influence, this resistance of the body to bacterial invasion, of which I have mentioned a concrete example in the case of the ear, seems to be at present very imperfectly understood. Acute cold is often credited with lowering it, but unless it were below normal to start with, why should the cold have been caught? On the contrary, it is generally admitted that an acute catarrhal or

febrile attack has the direct effect of raising the resistance, for it confers at least temporary immunity from similar attacks.

The presumption is strong that this is due to the development during the acute attack of those influences, whatever they may be, whether the chemical substances in the blood or not, whose manifestation we term "resistance."

Not only has this susceptibility to invasion an injurious effect in the relation to inflammation of the middle ear, but when it takes the form of liability to colds in the head, it predisposes to, and probably causes, Eustachian obstruction and consequent deafness; and the prevention of this and other evils will be successful in the same proportion as the bodily conditions that permit acute infection are understood.

From what I have said, the importance of any general treatment having for its object the raising of a patient's resistance will be apparent. Such treatment may be either preventive or curative. If I were asked what I considered the most generally important particular to which attention in this connection should be directed, I should reply the proper regulation of the bowels. There is hardly any morbid condition of the ear on which constipation does not exercise an injurious influence.

The time at my disposal will not permit of my doing much more than indicating the direction in which other lines of treatment lie. Avoidance of overwork, whether from long hours or severe mental strain, a proper allowance of sleep and good food, moderation in stimulants, a periodical and sufficient holiday, daily exercise and fresh air, clothing suited to the weather, morning bath, dry clothes and dry, warm feet, are all items of high importance. Constitutional remedies for subjects of constitutional disorders, whether the lesion in question appears to be the effect of the disorder or not, are often followed by good. Arsenic and iron should be given to the anæmic, salicylate of soda or iodide of potassium to the rheumatic, and mercury to the syphilitic. I have seen chronic suppurative otitis in a syphilitic subject resist treatment until mercury was given, and then heal. There was nothing to indicate a direct specific origin to the affection, and I think it probable that the cure was an indirect one, for there is no tonic for a syphilitic patient like small doses of mercury.

For the sudden complete deafness one sometimes meets with in syphilitic subjects, I have never found any treatment of the least avail. Rapid inunctions of mercury, large doses of iodide of potassium, and hypodermic injections of pilocarpine, even in recent cases, have completely failed in my hands.

Tinnitus, when due to sclerosis of the middle ear, is one of the most intractable conditions with which the aurist has to deal. The results of my efforts at its cure have not been very encouraging, nor have the effects of residence in particular places or altitudes, or natural waters, proved in my experience anything but the most disappointing. In tinnitus and vertigo of labyrinthine origin bromide of potassium has with me yielded the best results, and in the pulsating form associated with Eustachian catarrh nitro-glycerine has in my practice sometimes been followed by good.

The PRESIDENT said the members had listened to three very excellent contributions, and he would at once call upon Mr. Lennox Browne to continue the discussion.

Mr. LENNIX BROWNE expressed the opinion that, whatever may have existed in the past, it was no longer necessary to hold a debate which inferred narrowness of views taken by the specialist in diseases of the throat, nose, and ear, to the exclusion of the importance of general remedies. The conclusion in his own mind, after hearing the separate speeches of the openers, was that there was literally a thrice slaying of the slain. He might be allowed to express the opinion that the definite propositions laid down in the second address approached the subject in a thoroughly scientific and philosophic spirit, and might well guide the practice of all specialists, and not alone those represented in that Association. He claimed as a result of the discovery of the laryngoscope that the whole tendency had been to an extension rather than to a narrowing, both in aim and achievement. Improvement in diagnosis and treatment of diseases of the larynx had been quickly followed by a better appreciation of those of the pharynx, and yet again in diseases of the nasal fossæ and accessory sinuses, of which medical science had hitherto been almost, if not altogether, ignorant.

It had contributed the greatest assistance in regions further distant. For example, what laryngologist, seeing the physical signs of a tuberculosis or of a paralysis in the larynx, would not at once use his stethoscope or ophthalmoscope, or at least seek confirmatory aid by consultation in those directions? But, at the risk of appearing invidious, he would ask how many physicians of eminence, who devoted themselves to diseases of the chest, even at this date examined the larynx, or, in the case of asthma, searched for nasal polypi. And yet, again, let them consider the indebtedness of the ophthalmologist to the rhinologist for recognition of a nasal lesion as the direct cause of a glaucoma and many other diseases of the eye.

The speaker had said that this charge was out of date, and he would venture to remind the Fellows that in his chapter devoted to "Therapeutics of Throat Diseases" he had—twenty-one years ago—impressed the importance of implanting all local treatment on the sound basis of the constitutional.

Perhaps against no man had this charge of an undue tendency to treat local diseases by local measures been levelled more than at the late Sir Morell Mackenzie, and yet it was forgotten that he was for many years a member of the general staff of the London Hospital, an appointment which could only be obtained by a very complete knowledge of medicine as a whole. Indeed, in his Presidential Address of 1888 to that Association—in fact, the first act of their proceedings—he said:

"No laryngologist, so far as I am aware, has the slightest wish to be 'independent' of general medicine, any more than the captain of a coasting steamer wishes to be 'independent' of navigation. Surely specialists may gather together to compare notes as to details of their work without surrendering the scientific principles which unite them to the general body of their profession."

He followed this with these important words:

"I would urgently recommend the younger members of this Association, whilst devoting themselves to our speciality, to continue to practise general medicine or surgery for the first ten years of their professional career. It is impossible that a man can be a really good specialist without possessing a general knowledge of disease; and when I say 'general knowledge,' I do not mean such a knowledge as can be obtained in a student's career, or even such as may be acquired by the holding of minor appointments at the termination of the hospital curriculum. What I consider requisite is such a familiarity with morbid processes as can only be acquired by those who are in the habit of using all the resources of their art in combating the great variety of ills which flesh is heir to. In my opinion, only those who have acted as general practitioners for some years, or who have held appointments as physicians or surgeons to general hospitals, are thoroughly equipped for practising as specialists. It is only after thorough knowledge has been obtained in many departments of medicine that learning and experience can be focussed with advantage on a single point."

The speaker had often heard Mackenzie remark, what must have occurred to all, that the majority of patients who came to the specialist had already undergone constitutional treatment *ad nauseam*, and that local treatment for the most part had been of an

inefficient, albeit perhaps harmless, character, such as gargles and douches.

In conclusion, the speaker would draw the attention of the Fellows to the fact that charges of undue prominence of local treatment had been equally levelled at all other specialists, and especially at gynæcologists; but yet almost all that was valuable in the discoveries of medical science in the last quarter or half century was, so far as absolute relief to human suffering was concerned, due to specialism and to surgery, rather than to medicine.

Dr. MACNAUGHTON-JONES said that the subject was one upon which no doubt every member present would be able to speak, and give experiences of practical importance. He admitted the soft impeachment that he had for a number of years been regarded more in the light of a general than a special specialist, therefore he was disposed to give as much consideration to general as to local treatment. He thought they might divide the special diseases for which they were consulted into those in which they could not hope to cure the patient by any general treatment without first resorting to active special therapeutics, carrying the latter out satisfactorily, whether they supported it by general treatment or not, and those cases in which they could conscientiously say that local treatment could do no good, in which every conceivable form of local treatment had been tried and the forces of medical civilization had been exhausted, and where they must fall back on general medication and regimen.

First regarding *laryngology*. Who, for example, did not know the influence of climate on various types of laryngeal affection which had resisted local treatment? Such had been his experience. He liked to find questions of this kind brought forward in a broad philosophical spirit, and not from a narrow point of view. He alluded to the important point referred to by Dr. Woods, viz., the vital power of the patient, or the capacity to resist disease, and which it was the duty of every physician to try to primarily develop. Some few years ago he was much run down in health through the serious and tedious illness of a member of his family. Wishing to be near London, he went to live for a time in the Thames Valley, and while there suddenly developed a "river throat," with cough and slight expectoration, in which there was at first some tinging of blood. His condition caused him some anxiety, and he examined his own larynx carefully. In the posterior extremity of one cord he found a small gap. Sir Felix Semon saw his larynx, and he assured him that the trouble was not likely to become serious. However, it lasted for some time, and a second ulcer appeared on

the opposite cord. By sucking ice, using sedative and antiseptic sprays, avoiding frequent local medication, which he thought was often a common cause of sustained laryngeal trouble, and by taking advantage of occasional changes of climate, his larynx ultimately got perfectly well. If he had gone to an interfering, meddling laryngologist, he believed he would not so readily have recovered his phonation. Some years since he saw a young lady in consultation who was about to have an operation (for which a large fee was to be paid) performed on her larynx. He could not conceive what the operation was. She was anæmic, suffering from amenorrhœa, and had a paretic affection of one cord. He treated her amenorrhœa and restored the menstrual functions, and by that course, together with internal faradization, she quickly recovered. Such cases absolutely prove the value of general treatment. Who did not know of the laryngeal affections due to the reflexes occurring at the climacteric, and amenable to general treatment? There was, for instance, hysterical aphonia, and other hysterical conditions associated with it, to which the same remark applied. A good deal had been said by one of the speakers about the treatment of *adenoids*, and he entirely agreed with his remarks. He maintained that side by side with any operative treatment, and even before operation, there was no affection with which the throat specialist had to deal, in the growing child, in which more active general treatment—gymnastic, hygienic, and tonic—was required than in the case of adenoids.

As to various *nasal* conditions, he could speak from considerable experience of the collateral effects of uterine affections on the nose, as congested turbinals, epistaxis, and vicarious states of the mucous membrane. Not long since he brought before the Society a case in which a phagedenic state of the nose occurred at each menstrual period. Such cases had to be met by general measures, as also many tonsillar states, such as follicular tonsillitis, and other hypertrophic enlargements due to atmospheric and climatic surroundings. There was one point concerning local predisposing conditions to which they were not even yet sufficiently alive, viz., the condition of the intestinal tract. A remark had been made that evening about constipation, and the idea that an ear or throat affection might be influenced by attention to the bowels seemed far-fetched; but he would remind them of the frequent generation of ptomaines, due to malassimilation and the retention of effete products in the intestinal canal. The good effect of the antiseptic calomel in local conditions was thus explained.

With regard to *the ear*, he had always maintained the import-

ance of general treatment in the affections of the ear. When making the diagnosis of an ear affection, they had to proceed by a process of exclusion, both in the local and general examination. They had first to eliminate tubercle, such vicious systemic states as gout, rheumatism, and syphilis, or heredity, and to treat such diathetical conditions if present. A most important condition in which general treatment was often invaluable was the anæmic and low-tension vascular state very often associated with leucæmia, and in which the labyrinth as well as the middle ear was affected. When tinnitus was present here, the aurist was thrown back on general treatment. The low-tension state had to be carefully distinguished from the high. If recognised in time, early leucæmic conditions were benefited by large doses of iodide of potassium and assimilable iron preparations; while if the tension was high, the bromides, hydrobromic acid, and subcutaneous injections of pilocarpine, were indicated.

Referring again to vital resistance, had they any clearer proof of its influence in preventing aural affections than the influence of malaria in producing miasmatic states of the ear, such as furunculus and otitis media, which came on when a man was a little below par, and when there were heavy rains or the weather was moist and enervating? Often, by attention to general treatment, when the throat became relaxed and the whole system fell below par, an attack of otitis media was averted or arrested.

Dr. DUNDAS GRANT said he would be as brief as possible in making a few remarks. They were perhaps present that day for the purpose, as far as they could, of exchanging what might be termed bits of therapeutic knowledge, even if the ideas were nothing more than empirical—what might be called their pet wrinkles. He trusted he would be pardoned if he did not start on any very elaborate classification. He would take some of the affections in the different regions in which they were concerned in which he thought local treatment had fallen into the background. There were certain classes of cases which cropped up in his practice with considerable frequency, illustrating that point. If he touched upon those which had been left unmentioned by the preceding speakers, he would meet the requirements of the case better than by adopting any other plan.

First with regard to some of the affections arising in the ear. There were many which, as they knew, were among the opprobria of surgery or medicine, whichever department they might belong to; and very often these cases were uncured—or, to be more exact, unrelieved—because the exact nature of them had not been investi-

gated with such hopeful anxiety as he thought it desirable should be brought to bear upon them. Whatever there might be in the middle ear, they had always to recollect that there was something behind it which might be amenable to cure or relief, even though the middle ear were beyond help. For instance, in the cases which they had to diagnose for hospital purposes as "dry catarrh of the middle ear and nerve"—he meant those forms of sclerosis of the middle ear in which the disease had extended into the internal ear—they knew that was the classical third stage in which there was some disorder of the internal ear associated with the condition of the conducting apparatus. They might therefore have either a form of dulness of hearing or vertiginous conditions, and these were very frequent. The great mistake apt to be made was to say, if there was nerve deafness, that it must be treated by pilocarpine or nothing at all. If they tried to analyze it, they sometimes found that the internal-ear condition was an anæmic one, or in other cases distinctly a congestive one. Or they might have reason to suspect that it was sometimes anæmic and sometimes congestive in the same individual. That meant there was a loss of stability in the vaso-motor mechanism, due to some general condition over which they had more or less control, and which, as general practitioners, they had to try to unravel.

The condition of anæmia of the internal ear was, he thought, one which it was of the utmost importance to recognise, and failures in treatment had often occurred from neglect to do so. The typical hospital case, as those who had heard him at hospital would be tired of hearing, was that of the poor widow who was left to struggle hard for the maintenance of herself, and he did not know how many children, under circumstances very much worse than those under which she lived before her widowhood commenced. They found such women coming with nerve deafness, and with evidences of anæmia, which the circumstances and surroundings, as well as other conditions, must lead them to recognise if they had their eyes open. If such a patient were treated with pilocarpine only, the most disastrous results might be expected, and actually did take place. Or if they devoted themselves to the Eustachian catheter, or even galvanization, no effect was produced; whereas if they hit off the exact cause of it, and treated the patient thoroughly for anæmia, adding the largest doses of strychnia or nux vomica which could be borne without further nervous disturbance, at the same time suggesting improvements in the mode of living, the results obtained were extremely satisfactory. Such cases occurred among even well-to-do patients, who through some

fad, either in diet or regimen, allowed themselves to get into that anæmic condition, and they found this form of nerve deafness was only to be cured by the avoidance of everything depressing, and by the adoption of everything sustaining, whether in the way of medicine, food, or drink. It was in these cases that possibly the judicious use of alcoholic stimulants was of the greatest value. There was a little touchstone for those cases when in doubt, namely, the inhalation of a small quantity of nitrite of amyl, just sufficient to produce a rush of blood to the head. In those anæmic cases it was quite a common occurrence to find the patient say that after such inhalation the observer's voice sounded louder than it had been heard before. The actual hearing for tuning-fork and watch was increased. It seemed to him that in this diagnostic point introduced by Dr. Lermoyez they had a very valuable finger-post on the way of treatment. He had advised that small doses of nitro-glycerine should be given in such cases, from which good results followed. He (Dr. Grant) thought he had seen such cases, but he was still more convinced that a thorough-going treatment for the counteraction of the anæmia was of far greater moment.

One of the most valuable means of removing anæmia was curing the constipation often associated with it; for no doubt leukomaines and ptomaines in the intestine had some action in interfering with the nutrition. Therefore one of his stock remedies for obscure cases was the compound decoction of aloes, the *baume de vie*, and in many cases in which it was given it seemed to justify that title.

One other remedy which he thought of considerable value was camphor. There were many cases on the verge of anæmia, sometimes on the verge of congestion, as far as their aural condition was concerned, due to instability of the vaso-motor system, and he thought in a great many cases the origin was in the sexual organs. Bromide of potassium was a classical remedy, but that could not be given for ever. They knew from the observations of Trousseau that camphor was one of the most perfect sexual sedatives known. Monobromide of camphor did not give such good results in his (Dr. Grant's) hands as camphor. Strong tincture of camphor should be given combined with milk. It was often given in small doses, because it was too irritating to the stomach for it to be borne; but when given in milk, that was not the case. He would not enlarge upon the subject, but would content himself with mentioning the points he had, which were not to be despised as therapeutic tips.

The PRESIDENT said he could not agree with the view which Mr. Lennox Browne had taken of the discussion. He (the President)

took the responsibility of suggesting the subject, but it was not with the view of raising any controversy between individuals, or even between the generalist and the specialist. He had, as a specialist, frequently been struck by the improvement which had been effected by some general remedy, either in the form of medicine or a change of climate, after local treatment had failed to cause a cure. He had also been impressed by the improvement wrought by change of surroundings, even in diseases where purely local treatment was usually employed. In one case this was very striking. A girl about five years of age was brought to him some six years ago suffering from laryngeal papilloma, a typical local disease, to which they applied local remedies. She was of very poor parents, and lived in one of the slums of Liverpool, and had her larynx full of papillomata. He saw her a few times with the view of operating intralaryngeally, but she disappeared before he did so. Four years afterwards she returned to him, having in the interval been living with relatives in Somersetshire. The growths had in that time shrunk so much that she could breathe comfortably, and there was little or no trace of them. However, on returning to Liverpool and to her old surroundings, within six months the growths rapidly developed, and she died of suffocation one day before assistance could be obtained.

Again, errors were sometimes made in neurotic affections of the throat and nose by overdependence on, or excess of, local treatment. This was especially so in paræsthesias of the pharynx and in paroxysmal sneezing and allied conditions. In the former one often saw cases where overzeal in local treatment had done harm, and in paroxysmal sneezing and rhinorrhœa a considerable proportion of cases were only to be benefited by appropriate general treatment.

Dr. Grant's remarks reminded him of a mistake which he had made himself a good many years ago. He saw a lady in consultation with her doctor; she was anæmic, and was suffering from deafness. He did not pay much attention to the anæmia, but was impressed with the deafness. He went through the routine examination and diagnosed nerve deafness, giving an unfavourable forecast. The patient had the wisdom to see another aurist afterwards, who was more experienced, and he told her she would get all right, as she subsequently did. It was a case of anæmia after childbirth.

He could not think the present discussion had been without real value, even if they had heard nothing but the interesting opening papers. For his own part, he thought there was always a tendency in specialism to narrow one's views of treatment—to

make too much of small local changes, and to exaggerate the importance of the operative measures required for their removal. While saying this, he at the same time freely admitted that in much the larger proportion of the cases they had to deal with, local treatment was either exclusively, or at least chiefly, required.

Abstracts.

MOUTH, Etc.

Barbier, H.—*Tuberculosis with Perforation of the Soft Palate.* "Société Méd. des Hôpitaux," January 20, 1899.

Woman, thirty-two years of age, non-syphilitic; had a sore throat after a severe influenza. She came into hospital in December; they found an ulcerous patch of right tonsil and on the pillar of the same side fungating ulceration with yellow nodosities; large maxillary adenitis. The syphilitic treatment was given without results. Gradual increase of the lesions, and in January, besides an extensive ulcer, a perforation of the soft palate, as large as a shilling. It is not a definite lesion of pulmonary apparatus, but the ulceration contains tuberculous bacilli. Improvement of the local state by the use of lactic acid.

A. Cartaz.

Brault.—*Macroglossia-Lymphangiectasis.* "Ann. des Mal. de l'Or.," May, 1898.

The author gives a further account of the case of a child with this condition, the former stages of which were described in the JOURNAL OF LARYNGOLOGY from "Ann. des Mal. de l'Or.," xxiii., 1897. He reports that the dentition has proceeded without any recurrence of the disorder in the tongue.

Waggett.

Killian, J. (Worms).—*Pathology of the Ductus Lingualis.* "Münchener Medicinische Wochenschrift," No. 36, 1898.

There is little reference to the lingual duct in the works of specialists. In this paper Dr. Killian describes five cases where there were pathological changes in connection with this duct. In two there was a circumscribed collection of gray mucus around the foramen cæcum; in the other three there was a semi-spherical swelling covered with smooth mucous membrane in the middle line, immediately in front of the lig. glosso-epiglotticum medium. This swelling contained sometimes a gray slimy, sometimes a white flocculent, secretion, which could be pressed out of the foramen cæcum. He considers that in these cases there was a qualitative and quantitative change in the secretion. The secretion must have collected in a cavity in communication with the lingual duct, and pointed to a muco-purulent catarrh of a cystic dilatation or of cystic connections of that duct. The subjective sensations experienced were pain and a burning feeling at the base of

the tongue, or the presence of a foreign body in the throat. He considers that certain parasthesiæ may be ascribed to this condition, also that by the entrance of foreign bodies and retention of secretion in the ducts pathological changes may be produced. Infection and inflammation of the duct and its connections may be the cause of phlegmonous and purulent inflammation at the root of the tongue.

Guild.

Malm.—*A New Velum Retractor.* "Ann. des Mal. de l'Or.," June, 1898.

The instrument (figured), made on the pattern of Beloc's sound, consists essentially of a cannula, curved at its extremity, and carrying a central sliding rod, to the end of which are attached two curved springs, which tend to diverge when thrust out of the cannula. The instrument, with the diverging springs concealed in the cannula, is passed into the nose in the manner of a catheter. When in position, the sliding rod is pushed home, and the ends of the springs make their appearance on either side of the uvula. When adjusted, the whole is kept in position by a ring, which presses on the upper lip. The instrument is specially constructed with a view to asepsis.

Waggett.

Ripault.—*Reports of some Cases.* "Ann. des Mal. de l'Or.," May, 1898.

1. A case in which a silver alveolar plug was accidentally pushed into the antrum. This was after a few weeks expelled from the nose during the act of syringing.

4. A case of voluminous fibrolipoma of the palate of eight years' duration in a man. The tumour was sessile, being attached from the dental arcade in front to the uvula behind. It was smooth, firm to the touch, and, almost filling the mouth, had begun to impede respiration. The tumour was removed under cocaine by morcellement.

8. The case of a lady with albuminuria and diabetes, in whom the general condition seemed to be about to terminate with cerebral complications. In particular, an almost permanent state of somnolence was experienced. The author found and removed a very large nasal polyp, and with the restoration of nasal patency the cerebral symptoms disappeared.

11. A case of hemiplegia of the velum, following the prolonged use of an ethyl-chloride spray for the extraction of a molar tooth. This paralysis, *à frigore*, seemed to become well marked two or three days after the visit to the dentist. Electrical treatment of three weeks' duration was followed by cure.

13. A case of local cocaine intoxication in a man with chronic laryngeal catarrh. The larynx was swabbed with 10 per cent. solution of cocaine—a fresh solution of a sample of known good quality—and subsequently some cocaine was insufflated into the larynx, not more than 20 centigrammes being employed in all. These applications were made in a nervous patient as a preliminary to his first experience of swabbing with zinc chloride (1 in 30 solution); but it is not clear from the reports whether or no the latter application was made.

Within half an hour the patient experienced intolerable burning in the throat and throbbing in the ears; deglutition was almost impossible for three days, and a profuse salivation occurred, with desquamation of the tongue and accompanied by a febrile condition. It was not until eight days had passed that the patient recovered from this presumed cocaine intoxication.

Waggett.

NOSE, Etc.

Bécigneul.—*Remarkable Improvement of Adenoids after Diphtheritic Serotherapy.* "Gaz. Méd. de Nantes," January 1, 1899.

Bécigneul relates the case of a child, aged seven years, with large pharyngeal adenoids, admitted in the hospital for a diphtheritic angina. Injection of Roux's serum. After culture the diagnosis was angina staphylococci; it was not Löffler's bacillus. After the serum injection the adenoids constantly diminished, and the child, who before the angina required operation, can easily breathe by the nose.

Heurtaux has tried in a case of adenoids in a child the same treatment (injection of 10 c.c. of anti-diphtheritic serum). The result was successful; the adenoids had disappeared in three weeks; the deafness was cured.

A. Cartaz.

Bernard.—*Acute Pneumococcic Sinusitis without Suppuration.* "Rev. Hebd. de Lar., O., R.," August 13, 1898.

The author reports two cases of acute sinusitis associated with coryza, in which the non-purulent discharge was constantly blood-stained, and resembled pneumonic sputum. The condition in both cases was of an acute character, and after a few days (eight and six) resolution took place with rapidity. In both, severe neuralgic pain was experienced, and there was a marked degree of general lassitude. Pneumococci were present in abundance.

Waggett.

Brindel.—*The Cysts and Pseudocysts of the Nasal Fossæ.* "Rev. Hebd. de Lar., O., R.," February, 1898.

This is a useful résumé of this chapter in the literature of nasal pathology, and further includes the reports of some eight illustrative cases.

Waggett.

Collier, Mayo.—*Nasal Obstruction and Ear Affections.* "Lancet," October 15, 1898.

The article gives an explanation of the manner in which nasal obstruction affects the Eustachian tubes. The importance of treating nasal obstruction and the accompanying catarrh is pointed out as a necessary first step in the majority of aural affections.

StClair Thomson.

Delie.—*Endothelial Sarcoma, or Angio-sarcoma of Middle Turbinate.* "Rev. Hebd. de Lar., O., R.," December 10, 1898.

The case of a female patient of fifty-nine, in whom, after several unsuccessful attempts by other doctors to restore patency to the nasal fossæ on the left side, the author found a well-developed sarcoma of the middle turbinate and ethmoidal cells. Operation was refused, and the neighbouring parts were rapidly invaded, enlargement of the cervical glands taking place. Death was due to invasion of the anterior cranial fossa, as shown by autopsy.

Waggett.

Gougenheim and Lombard.—*Cupric Electrolysis in Ozena.* "Ann. des Mal. de l'Or.," September, 1898.

The authors give a detailed account of the technique and reports of seven cases in which the symptom of fetor seems to have reacted

well to the method. The article should be read in the original by those who take a practical interest in this mode of treatment.

Waggett.

Gradenigo.—*A Case of Congenital Osseous Occlusion of the Right Choana.* "Ann. des Mal. de l'Or.," March, 1898.

The case of a man of eighteen complaining of nasal obstruction of five years' duration and deafness on the right side. Adenoids were present, and the left nose was blocked by hypertrophic rhinitis. Post-rhinoscopic examination showed the right choana of normal size, but closed by a wall of red colour, which was situated about 1 centimetre within the nasal fossa.

When viewed by anterior rhinoscopy, the obstruction was seen to be funnel-shaped, and to be formed by the convergence and union of the walls of the nasal cavity, and particularly of the outer wall and floor. Examined from the mouth, the hard palate was found to be elevated on the right side posteriorly, leaving, as it were, the proper level, and so increasing the length of the velum on that side.

The occlusion was perforated with a large trocar, and the opening subsequently enlarged with bistoury and punch forceps. Waggett.

Hamm (Brunswick).—*The Submucous Treatment of Hypertrophic Rhinitis.* "Monatschrift für Ohrenheilkunde," September, 1898.

He recommends the submucous injection of half a gramme of 10 per cent. solution of chloride of zinc. The results, he says, are excellent, and in a week the cure is complete. William Lamb.

Huttner (Berlin).—*Die Syphilitischen Granulome (Syphilome) des Nase.* "Archiv für Laryngologie," vol. vii., parts 2 and 3.

These tumours produce no characteristic symptoms, and usually direct attention when they are of such a size as to interfere with secretion or respiration. They are of different size, and may be sessile or pedunculated. Their favourite situation is the anterior inferior part of the septum, but they are also found on the turbinates and the floor of the nasal fossa. The surface is red or reddish-gray in colour, and uneven; superficial ulceration is not uncommon with a covering of muco-purulent matter. The tissue is very soft and brittle, with no tendency to necrosis, which characterizes them from gummata. Inflammatory irritation due to the disintegration of a gumma may result in the formation of granulations. These granulations have only an indirect connection with the primary tissue disintegration, and have as such nothing to do with the original infection. The same relation exists between true tuberculomata and granulations around tubercular ulcers. Where there is a true tuberculoma, we must expect to meet an independent tumour not produced by any change in the neighbourhood, which owes its origin directly to the tubercular virus. Granulations around a tubercular ulcer, on the contrary, are caused not by the virus, but by inflammatory irritation associated with tissue disintegration. Thus it may happen that such granulations may show in their interior characteristics of tuberculosis — giant-cells, tubercle, tubercle bacilli. Tubercular inflammation can attack any part without causing the formation of a tuberculoma. The tumour growth first occurs when a new, stronger irritation, due to tissue disintegration in the neighbourhood, develops, which causes new processes of proliferation in the already specifically infected tissue. In syphilis the same analogy holds, although a little more complicated. There is no specific virus known

in syphilis; the anatomical structure of the syphilitic granuloma contains nothing that is not occasionally found in non-specific tissue, such as cell proliferation, giant-cells, regressive metamorphosis, thickening of bloodvessels. It is often difficult to determine whether an inflammatory granulation or a tumour growth has a specific basis. These tumours must be distinguished from innocent granulation growths, inflamed fibromata, tuberculosis (lupus), sarcoma. Their whole structure and arrangement resembles most closely gummata. The likeness is greater the more recent the growths are. In both cases the process begins under the surface of the tissue with an increasing circumscribed collection of cells, which at this stage do not show what they afterwards will become. By the gradual growth of the tumour the mucous membrane is elevated. But while the mucous membrane with gummata is only raised somewhat spherically above the normal surface, the other tumour, finally not lying in the mucous membrane, forms elevated sessile or pedunculated growths. At this stage a further difference arises, as the elements in the gumma are of short duration; signs of retrogressive metamorphosis speedily appear, which lead to destruction of the tissue. Much greater resistance is shown by the syphilitic granuloma; appearance of degeneration is not uncommon, but there is never central disintegration. *Guild.*

Lacroix.—*A Case of Nasal Vertigo.* "Arch. Intern. de Lar., O., R.," September—October, 1898.

As many physicians are reluctant to accept the nasal lesion as the cause of vertigo in certain cases in which the symptom ceases after intranasal treatment, the author relates the following example, in which it is impossible to put down the happy result either to mere counter-irritation or mental suggestion. The patient was a lady of thirty-eight, who consulted the author for some trivial throat affection. Three small polypi were found in the right middle meatus, and were removed under cocaine without more ado. The patient experienced no pain at all, and the whole affair was of the most trivial character. Ten days later the patient returned and stated that she had been a new woman since the previous visit. She then related for the first time that for more than a year she had suffered with giddiness on making the least movement, and this had been very marked when walking. On several occasions she had fallen. A variety of treatment had failed to give relief, and supposing the trouble to be intractable, the patient had accepted it as the inevitable. She was therefore quite unprepared for the complete suppression of the vertigo, which took place immediately after the removal of the polypi. There is, therefore, no question here of suggestion or of counter-irritation.

Waggett.

Lermoyez.—*Case of Primary Chancre of the Nasal Septum.* "Ann. des Mal. de l'Or.," No. 12, 1898.

This is a report of a case where the development of a syphilitic chancre on the nasal septum gave rise to errors in diagnosis (rhinitis, fibrinosa unilateralis, perichondritis, sarcoma). The occurrence of secondary symptoms made the diagnosis certain, and this was confirmed by the result of anti-syphilitic treatment. *Guild.*

Lermoyez.—*Chancre of the Septum.* "Ann. des Mal. de l'Or.," December, 1898.

The author gives a graphic description of a case of tumefaction of

the nasal septum in a young man which for some weeks baffled all attempts at diagnosis by himself and several other surgeons.

The condition was at first that of a unilateral, firm, non-ulcerated swelling of the cartilaginous septum, covered with a false membrane. The cervical glands became enlarged, and after exploratory puncture in the expectation of finding pus, the septal swelling rapidly increased in size and fungated, completely blocking the nose.

Perichondritis, chancre, and sarcoma were successively diagnosed, but the microscope gave no evidence of the latter. On the eve of an extensive operation a syphilitic eruption made its appearance, and subsequent events proved the nasal lesion to be a hard sore.

Waggett.

Lermoyez. — *Hysterical Nasal Insufficiency.* "Presse Médicale," January 29, 1899.

Interesting case of a girl having, since childhood, a constant nasal obstruction by a deformity of turbinated bones. Cure by ablation of the obstruction; but in spite of the free nasal passage, nasal respiration is impossible, and when she closes her mouth or simulates closing it, she is little by little cyanosed and has true asphyxia. The patient is hysteric (cutaneous anæsthesia, diminishing of gustation, anæmia, etc.). During the day the mouth is largely opened, but during the night, in sleeping, the mouth is closed and the respiration by the nose is easy and constant. It is a "motrice aboulie" from hysterical origin, and limited to nasal respiration.

A. Cartaz.

Malherbe (Paris). — *Chronic Catarrh of the Naso-pharynx, and its Treatment by the Curette.* "Revue Hebdomadaire de Laryngologie," No. 40, 1898.

Accumulation of tenacious mucus in the naso-pharynx is frequently not the result of nasal disease, but is due to localized inflammation of the adenoid tissue of the pharyngeal tonsil. At puberty there is only partial disappearance: the tissue that remains becomes denser by atrophy of the tubular glands, and hypertrophy of the lymphatic elements and mucous membrane, which frequently leads to the formation of crypts, and even cysts. This tissue the author removes with a curette, and in seven cases which he described a perfect cure was obtained.

Guild.

Malherbe. — *Chronic Posterior Pharyngeal Catarrh.* "Arch. Intern. de Lar., O., R.," September-October, 1898.

The author is not of opinion that post-nasal catarrh is merely part of chronic rhinitis, though frequently associated with nasal troubles, but that it is a disease on its own account, and dependent on the presence of an abnormal hypertrophied condition of Luschka's tonsil. In the majority of cases a history suggestive of adenoid vegetations is forthcoming. He believes the only proper method of treatment is a thorough curettement under anæsthesia, with subsequent detergent swabbing.

Waggett.

Molinie (Marseilles). — *Case of Blue Nasal Secretion: Chromo-Rhinorrhœa.* "Revue Hebdomadaire de Laryngologie," No. 43, 1898.

Report of a case where from time to time there was a blue secretion from one nasal fossa. The *Bacillus pyocyaneus* could not be found. The etiology was uncertain.

Guild.

Onodi.—*A Rare Anomaly (Posterior Ethmoidal Cell).* "Rev. Hebd. de Lar., O., R.," December 24, 1898.

Onodi contributes to the anatomy of the nasal accessory sinuses a case of anomalous posterior ethmoidal cell, with a drawing of the bisected specimen.

On a sagittal section of the face, he found a large sinus between the roof of the right orbit posteriorly and the anterior fossa of the skull. At first he supposed this to be part of a posterior diverticulum of the frontal sinus, a condition which has been often described. The anomalous cell proved, however, to belong to the posterior ethmoidal group, and was in no way connected with the rather small frontal sinus. The anomalous cell measured 2 centimetres in height, and 3 by 4 in length and breadth.

Waggett.

Pierre.—*Lympho-sarcoma of the Naso-pharynx.* "Arch Intern. de Lar., O., R.," July-August, 1898.

The case of a man of thirty-two who presented himself suffering with severe earache on the left side, of some duration.

Examination showed blocking of the choana by a pale-red tumour of raspberry form, springing apparently from the neighbourhood of the Eustachian eminence. To digital examination the growth had the feel of ordinary adenoids, and was accordingly removed with punch forceps and curette. There was no unusual hæmorrhage. The morsels removed had the appearance of adenoids. Microscopic examination showed the growth to be lympho-sarcoma, and recurrence took place with great rapidity, the patient succumbing within two months, after exhibiting paralytic phenomena due to extension of growth.

The fact that the left side of the velum was paretic was noted before the operation.

Waggett.

Price-Brown.—*Membranous Rhinitis.* "Domin. Med. Month.," April, 1898.

This is a brief report of a case. The left nostril was filled with a large white patch of two weeks' duration; on removal it left a somewhat abraded surface on the septum. A bacteriological report shows that it was due to staphylococci in pure culture.

Richards, G. L.—*Bleeding Polyp of the Septum (Telangiectoma); Report of Case.* "Laryngoscope," December, 1898.

W. H.—, male, age thirty-two, clerk, saw the author August 13, 1898, with a history of hæmorrhages from the right nostril for eight months, and difficulty in breathing through the right nostril. An irregular reddish-blue mass about $\frac{3}{8}$ by $\frac{1}{4}$ inch, freely movable, was attached by a very small and short pedicle to the cartilaginous septum, about two-thirds of the way back from the front, and an inch from the floor of the nose.

Author removed it with cold wire snare slowly, and twisting the pedicle somewhat. The bleeding, though from a minute area, was profuse, and was partially checked by the galvano-cautery. Packing with iodoform gauze strips, alternately soaked in peroxide of hydrogen and an antiseptic oil, stopped the bleeding. Twelve days later there was complete healing. Accompanying cuts illustrate the description of the microscopic appearances of the tumour.

R. M. Fern.

LARYNX, Etc.

Denault.—*Syringomyelia, with Serious Laryngeal Symptoms.* "Ann. des Mal. de l'Or." May, 1898.

The case of a girl of twenty-two with the usual symptoms of syringomyelia, which are reported in full in the original. In 1893 a goitre was first noticed, and soon afterwards the sensory phenomena of syringomyelia commenced. In 1896 laryngeal symptoms commenced, with cough, and in 1897 nocturnal dyspnœa became pronounced, so that the goitre was extirpated on the assumption that this was causing pressure symptoms. Slight relief was afforded by the operation. Late in the same year deglutition became embarrassed. The author saw her at the end of 1897, and found the dyspnœa to be due to paralysis of the cords, which on inspiration were not separated more than 2 millimetres posteriorly, the edges being somewhat concave. The right half of the palate was paralyzed. Laryngeal and pharyngeal reflexes were somewhat exaggerated. *Waggett.*

Gaudier.—*Typical Hyaline Myxoma of the Larynx.* "Ann. des Mal. de l'Or.," April, 1898.

A smooth, translucent, pedunculated polyp growing from the anterior commissure in a man of thirty-four. Symptoms of three years' duration. The growth was the size of an almond, and had all the appearance of a nasal polyp.

Microscopic examination: Stratified squamous epithelial covering, in direct continuity with a matrix, showing a few bloodvessels and containing cell nuclei of various forms, with a fine network of delicate anastomosing fibrilla. At certain spots the cells were arranged in clumps. *Waggett.*

Griner, A.—*The Recurrent Paralysis.* "Thèse de Paris," 1898.

An excellent critical review, based upon Lermoyez's report to the Parisian Laryngological Society. Under the term of recurrent paralysis Griner includes only the laryngeal paralysis caused by organic lesion of the recurrent nerve or bulbar and cortical roots; the hysterical and muscular paralyses are not studied in the pamphlet.

After a good and elaborate account of the innervation of the larynx, Griner studies the recent researches on bulbar or cerebral centres. He denies the middle laryngeal nerve, Esner's nerve, and his preference is for Rosenbach-Semon's theory on primary paralysis of abductors.

The paralyses are divided into cerebral, bulbar, and peripheral. Griner studies in particular every sort, debates the symptoms and differential diagnosis, and concludes that recurrent paralysis is grave because it is the ordinary manifestation of serious and frequently incurable disease. *A. Cartaz.*

Hartley, John.—*Rebreathed Air as a Poison per se.* "Lancet," September 17, 1898.

The modern treatment of phthisis is made up of three essential factors: (1) The discontinuance of the supply of bacilli from without; (2) the abundance of nutritive material for the tissues; and (3) the supply of an abundance of fresh air uncontaminated by the products of respiration. This seems to mean that the tissues, if not too enfeebled, may be trusted to deal with the bacilli already present if their

metabolism is kept going at high pressure. Rebreathed air and sewer gas should not be looked upon as mere carriers of accidental poisons, but as poisons *per se*. Hence the writer enters a strong plea for thorough ventilation—a different thing from the small trickle of air supplied by the tiny “ventilators” which are so hopelessly inadequate.

StClair Thomson.

Lermoyez.—*Benign Incurable Recurrent Nerve Paralysis.* “Ann. des Mal. de l’Or.,” April, 1898.

The case of a lady of thirty, showing the left cord in the cadaveric position. Going carefully into the history, it became evident to the author that this condition had existed for some twenty-seven years, and was the sequel of an attack of measles at three years of age. Examination of the chest indicated the presence of some induration in the upper part of the thorax, due to former adenitis of the tracheo-bronchial glands.

Waggett.

Percepied, E.—*Laryngeal Ictus.* “Normandie Méd.,” February 1, 1899.

Report of twelve cases of laryngeal ictus: five patients were asthmatic or emphysematous; one had hay fever; four had bronchitis and emphysema, two were tuberculous.

In three cases, the patients were great smokers; eight had chronic pharyngitis; five hypertrophy of turbinated bones.

Percepied admits Merklen’s theory on the etiology of these laryngeal crises, and advises the use of antipyrine.

A. Cartaz.

Sainsbury, Dr.—*Case of Acute Membranous Laryngitis in a Child, requiring Tracheotomy and Intubation. Recovery.* “Lancet,” October 8, 1898.

A child was admitted to hospital suffering from laryngeal obstruction. No membrane was found in the fauces, and a culture from the pharynx was negative so far as regards Klebs-Löffler bacillus. The breathing became more difficult, so that tracheotomy was required. Later on attempts to do without the tube were unsuccessful on account of the dyspnoea which supervened. This was overcome by wearing an O’Dwyer intubation-tube for twelve hours.

The case is well worthy of being recorded, especially in connection with the very similar case reported in the “Lancet” of August 13. Although the failure to find the bacillus of diphtheria is no certain proof of the absence of that disease, yet if the examinations have been careful and numerous we are fully justified in saying that the case is in all probability not diphtheritic. Theoretically it is by no means impossible for an inflammation caused by streptococci to be accompanied by a membranous exudation; all that is required is that the inflammation should be of sufficient intensity to give rise not merely to a “serous” exudation, but to an exudation which can coagulate. In the analogous case of inflammation of the serous membranes the degree of coagulability of an exudate varies greatly. There is much to be said in favour of the view of the existence of a membranous laryngitis not due to the Löffler bacillus, but its existence can only be proved by the putting on record of all cases which have been carefully observed and bacteriologically examined.

This case presents one or two points of special interest. In the first place, it would seem to be an instance of a non-diphtheritic membranous laryngitis arising independently of any direct damage to the part, as by

scalding or other form of mechanico-chemical irritation. In favour of this conclusion there are (1) the negative results of cultures taken from the fauces and the direct negative examination of the membrane coughed up; (2) the absence of any albumin in the urine; (3) the absence of any paralytic sequelæ; and (4) the fact that no history pointing to contagion could be obtained. Non-diphtheritic membranous laryngitis, contended for by many, amongst others by Fagge, denied by many others, and in any case regarded as a rare event, would seem to have been present here. In the next place the case is of interest on account of the speedy relief, obtained by intubation, of that troublesome condition which makes it sometimes so difficult to remove the tube after tracheotomy. It is not a question here of discussing the relative merits of intubation and tracheotomy, and the case is an instance simply of the value of intubation as a supplement to tracheotomy. Lastly, assuming the case to have been non-diphtheritic, we may note the complete harmlessness of 8,000 units of diphtheria antitoxin.

StClair Thomson.

Wishart, Gibb.—*Coin in Larynx; Tracheotomy; Recovery.* "Canad. Lancet," October, 1898.

A foundryman, aged forty, who was holding a ten-cent piece between his teeth, accidentally drew it into his larynx. He was seen by the doctor eighteen hours after the accident. There was neither weakness nor dyspnoea. On examination, the coin was found lying on the anterior half of the vocal cords, held down by the ventricular bands above. All attempts at removal being ineffectual, local anaesthesia was produced by injecting Schliech's solution into the cellular tissue over the thyroid. The two upper rings of the trachea and the lower part of the cricoid were then severed, and the coin was successfully removed through the opening by means of curved forceps. The patient made a good recovery.

Price-Brown.

E A R.

Barkau, A. (San Francisco).—*Chronic Otitis Media Purulenta. Abscess in the Temporo-sphenoidal Lobe, followed by Purulent Leptomeningitis. Operation; Death.* "Archives of Otology," vol. xxvi., No. 4.

In this case the symptoms had become very extreme before it came under the writer's care. (The temperature was higher and the pulse more rapid than usual in uncomplicated abscess.) The abscess was discovered and evacuated, but death occurred from purulent meningitis.

Dundas Grant.

Biehl.—*Cholesteatoma of the Middle Ear.* "Wien. Klin. Rundsch.," No. 29, 1898.

Historical review on the genesis of cholesteatoma.

R. Sachs.

Druault.—*Sarcoma of the Internal Auditory Meatus.* "Ann. des Mal. de l'Or.," August, 1898.

The patient, a girl of seventeen, developed at the age of ten facial palsy on the right side, together with headache. Under electrical

treatment the palsy diminished in degree, but never disappeared. Six years later the headaches returned, accompanied by vomiting and diplopia, and a few months later the limbs on the right side became partially paralyzed. On admission the diagnosis of cerebral tumour was at once made, all the usual symptoms being present, including choking of the optic discs on both sides. Hearing by bone-conduction was completely absent on the right side. The general pressure symptoms gradually increased, and the cerebral hemisphere on the right side was examined with negative result. At the autopsy a large pedunculated sarcoma, 4 or 5 centimetres in diameter, was found on the right posterior fossa. This had no connection with the surrounding parts except in the situation of the internal auditory meatus. The tumour appeared to have its origin in this cavity, involving both the seventh and eighth nerves, but the labyrinth and middle ear were not invaded by the growth. The latter was in part cystic, and microscopic examination showed the cyst formation to be due to "a kind of necrosis" of portions of tissue, which exhibited the characteristics of a fasciculated spindle-cell sarcoma. A microscopic examination of the brain was not made.

The author remarks that the original facial palsy was without doubt caused by the growth in the internal auditory meatus, which presumably had been of very slow growth, if, indeed, it did not for a time become quiescent. As the onset of the final and fatal attack was evidenced solely by the onset of general hemiplegia, a question is raised as to the presence of a second growth somewhere in the motor tract from the left hemisphere.

Waggett.

Gottlieb, Dr. (Kär).—*A Guarded Chisel for the Ear.* "Monatschrift für Ohrenheilkunde," August, 1898.

The chisel slides upon a guide, which is bent up at the end so as to guard the point. A strong handle is attached to the guide nearly at right angles.

The instrument is intended to be used for the removal of the outer wall of the attic, to expose the aditus ad antrum without injury to the facial or external semicircular canals.

William Lamb.

Gradenigo.—*Ophthalmoscopic Examination in the Diagnosis of Intracranial Complications of Suppurative Otitis.* "Ann. des Mal. de l'Or.," December, 1898.

Gradenigo has examined the reports of some 630 cases of this kind, and regrets to find how small is the percentage in which an ophthalmoscopic examination is recorded, though such examination seems to have been more commonly made during the last two years.

It is needless to point out that the symptoms of intracranial complication are very frequently indecisive, and no one can afford in a doubtful case to dispense with any indications which the fundus oculi may present.

The author does not hesitate to affirm, as the result of his personal experience, that the ocular lesion is sometimes the only pathognomonic sign of the commencement of some intracranial extension of aural disease, a sign all the more valuable as it is met with frequently even in that class of complication which must be considered as the expression of the primary invasion of inflammation from the ear to the cranial cavity, namely, extradural abscess. The ocular lesions described vary from simple congestion of the papilla to stasis and optic neuritis.

They are, as a rule, bilateral, but generally more marked on the affected side. They rapidly pass off when the cranial mischief has been relieved, and, indeed, this fact furnishes the best evidence of the success of an operation.

The author maintains that papillitis is never observed in cases of suppuration confined to the middle ear and mastoid, and that it is a certain indication of intracranial invasion, an opinion which will not be accepted in all quarters.

On the other hand, it is by no means a constant sign, even in any special category of cases, and it is only observed in a certain percentage of instances and at certain periods of the disease. At present we can only affirm that a relationship of cause and effect exists between the cranial disease and the papillitis; what is the nature of the exact etiological tie is a question which has still to be answered. Of the 635 cases (including 74 personal cases), an ophthalmoscopic report is forthcoming in 172. Papillitis is noted as present in 90 cases, or 52.3 per cent. of those examined.

Uncomplicated extradural abscess (for the most part about the sinus): out of 39 cases, 16, or 41 per cent., showed papillitis.

Septic thrombosis of sinus, simple or complicated with extradural pus: 31 out of 52, or 59.6 per cent.

Cerebral abscess, simple or complicated with sinus thrombosis: 18 out of 34, or 52.9 per cent.

Cerebellar abscess, simple or complicated with sinus thrombosis: 12 out of 20, or 60 per cent.

Leptomenigitis, simple or complicated with sinus thrombosis: 13 out of 27, or 48.9 per cent.

Total: 90 out of 172, or 52.3 per cent.

Papillitis is therefore most frequent in connection with cerebellar abscess and septic thrombosis (about 60 per cent.), less frequent in cerebral abscess and leptomenigitis, and least so in extradural abscess (41 per cent.). Two sources of error must be borne in mind in reading these statistics. The total number is not a very large one, and some smaller series have given somewhat different results. Again, it is impossible to determine in a complicated case whether the papillitis is caused, to take an instance, by the sinus thrombosis or coincident extradural abscess in a given case, for we know that either is capable of causing the phenomenon. Two facts of importance, however, stand out clear from these figures:

(a) Papillitis is present in about half of the cases taken together.

(b) Papillitis occurs in a large minority of cases of extradural suppuration, a condition which, as a rule, gives rise to no very clear signs or symptoms, and of which the papillitis is the sole diagnostic manifestation in many cases.

At present we are in the dark as to the exact mechanism of the ocular complication. In nearly half of the cases, and among them some of the most marked and serious cases, the sign is absent, while it appears in a prominent degree in some cases of the slightest gravity. Optic papillitis furnishes us with no information as to the seat or character of the intracranial disease. The disappearance, however, of the phenomenon is a certain indication of the efficacious result of operative interference.

The author calls for a routine examination of the fundus in all cases of acute and chronic middle-ear suppuration. In the great majority the result will be negative, but here and there a positive result will

permit of an early diagnosis, and the application of successful treatment.

Kaufmann, D. (Vienna).—*A Case of Homolateral Acute Affection of the Auditory, Facial, and Trigeminal Nerves.* "Archives of Otology," vol. xxvi, No. 4.

The patient, a healthy man aged thirty-four, became acutely ill, with malaise, feverishness, and headache, followed by herpes on the left cheek, and later by vertigo with recurring vomiting. This continued, and after a few days there ensued paralysis of the left side of the face, tinnitus, total deafness of the left ear, and loss of taste in the left half of the tongue. The tuning-fork tests indicated nerve deafness on the left side. Whispering was only heard close to the ear, and equally well when the meatus was closed. Air- and bone-conduction were worst for high-pitched tones. Under rest, iodide of sodium, and subcutaneous injections of pilocarpine, gradual improvement took place, and practical recovery as far as regards the facial paralysis and other symptoms, except the hearing, which remained for the whisper at $\frac{1}{4}$ metre, and for ordinary speech at 2 to 3 metres.

The simultaneous involvement of the other nerves localizes the affection of the auditory nerve as further inside the cranium than the petrous bone, and the mode of onset indicates an inflammation. This neuritis is probably rheumatic, as the writer thought he could exclude tumour, aneurism, hæmorrhage, meningitis, and syphilis.

Dundas Grant.

Körner, O. (Rostock).—*On Tympanic Neuralgia in connection with Abscess of the Tongue. Report of a Case.* "Archives of Otology," vol. xxvi, No. 4.

This was a case of tympanic neuralgia of the ear, due to an abscess in the tongue. The pain was increased when pressure was exercised on the hyoid bone, and disappeared entirely when the abscess broke. Professor Körner has repeatedly observed the increase of pain in the ear in case of tympanic neuralgia from carious teeth, on pressure in the hyoid region, and he considers this a diagnostic symptom.

Dundas Grant.

Körner, O. (Rostock).—I. *A Case of Chloroma of both Temporal Bones, of both Lateral Sinuses, and of both Orbits, simulating an Otitic Phlebitis of the Cavernous Sinus.* II. *The Literature on the Chloroma of the Temporal Bone and of the Ear.* "Archives of Otology," vol. xxvi, No. 3.

The patient was a child six years of age, who became hard of hearing and complained of headache of increasing severity. There was double exophthalmous paralysis of both abducent nerves, distension of the cutaneous veins of the forehead, swelling of the temporal regions, and bilateral choked disc. Both drumheads bulged and were of a pale grayish-yellow colour, and odourless pus escaped on paracentesis. The temperature, which was high, was not lowered by the operation. As there was swelling of the left mastoid, this was opened, but the cells appeared normal. Death took place in four months' time. On post-mortem examination the cause of the symptoms was assigned to certain greenish tumours existing in the walls of the lateral sinuses.

The study of the literature of the subject showed that this rare tumour was always multiple, and generally in children or in young adults. The temporal groove is a place of predilection; the chloroma then develops from the periosteum or in the substance of the muscle. A report of the literature, containing ten references, is appended.

Dundas Grant.

Kretschmann (Magdeburg Medical Society).—*Tubercular Disease of the Ear*. "Münchener Medicinische Wochenschrift," No. 1, 1899.

He distinguishes three types of tubercular disease of the middle ear.

In the first, in an early stage, there are miliary tubercles on the tympanic membrane; when these disintegrate numerous perforations, which rapidly become confluent, are caused, and lead to total destruction of the membrane. The tympanic mucous membrane is thickened, of a yellowish-red colour, and shows ulceration. There is no pain; it occurs in advanced tuberculosis. The second type occurs in individuals in whom the general disease is not so advanced. There is deafness, otorrhœa, but no pain. Granulations quickly grow through the perforation; they fill up the tympanic cavity and accessory spaces, the tympanic membrane is destroyed, the ossicles are exfoliated, and they break through into the labyrinth or cranial cavity. Erosion of the internal carotid or jugular vein, and facial paralysis, may result. The third form occurs after chronic otorrhœa. It is characterized by a necrotic circumscribed spot on the labyrinth wall; it has the appearance of a fibrinous layer, although it is a change in the tissue, in which tubercle bacilli are found. The probe reveals bare bone. The process may remain long stationary; gradually granulations form, which shrivel and lead to epithelial growth on the diseased surface. This last form occurs in individuals who show signs of tuberculosis of a chronic nature. Infection occurs by the circulation or by the Eustachian tube. Diagnosis is made by finding Koch's bacillus, the clinical appearance, or by microscopic examination. Treatment must be both local and general. In early stage iodoform or balsam of Peru, then application of caustics; if these fail, then the middle-ear cavities must be opened up.

Guild.

Kümmel, W. (Breslau).—*Notes on the Pathology of Intracranial Complications in Ear Disease*. "Archives of Otology," vol. xxvi., No. 4.

The writer narrates on account of their instructive nature a series of cases of which all except one ended fatally, in spite of the fact that the focus of disease was reached and removed. Case 1 was one of recurrent otitis media, in which paracentesis was repeatedly performed. On mastoid operation the parts appeared practically normal till the antrum was opened, when on the floor of this there was found a small opening leading towards the middle line. Further chiselling laid open a large abscess cavity near the apex of the petrous bone, internal to the sinus. This extradural abscess is believed by Kümmel to have had its seat in the endolymphatic sac. Recovery ensued. In the second case the symptoms led to the operative evacuation of a temporo-sphenoidal abscess, but without saving life. On post-mortem examination a second abscess was found immediately behind the first.

Dundas Grant.

Ménière.—*Mastoiditis of Bezold. Operation; Cure with Intact Membrane and Normal Hearing.* "Arch. Intern. de Lar., O., R.," September-October, 1898.

The patient, a lady of thirty-eight, was first seen several weeks after an acute attack of purulent otitis following influenza. There was a perforation in the anterior superior quadrant, and profuse discharge, but pain had been slight and only occasional. Under antiseptic treatment, enlargement of perforation, tubal injections, etc., the middle-ear trouble almost cleared up. Pain, however, returned, and this was located 3 or 4 centimetres behind the point of the mastoid. There was some swelling, and pressure here caused a crackling noise to be heard in the ear. Operation was performed, and a carious focus was found low down in the apophysis, and from this a fistulous track was traced up to the antrum. The recovery was uneventful. As the middle ear responded so well to treatment, it is presumed that the mastoid trouble commenced in the early stages, before free drainage was established by enlargement of the perforation. Waggett.

Photiadès and Gabrietidès.—*Fractured Base, with Deafness, Tinnitus, Vertigo, and Exophthalmos.* "Ann. des Mal. de l'Or.," August, 1898.

A well-reported case of fractured base, seen some months after the accident, with unilateral symptoms, as mentioned in the title, which developed immediately after the injury. The intense tinnitus could be controlled temporarily by the galvanic current. Waggett.

Ramsay, Herbert M.—*Case of Pyæmia treated with Injections of Anti-streptococcic Serum.* "Lancet," October 22, 1898.

A girl with measles developed fever and discharge from one ear. The anterior and inferior part of the membrane was perforated. In spite of treatment the general symptoms increased, the temperature rose to 105.4° , and there was pain over the tip of the mastoid, but no tenderness over the mastoid cells. The "mastoid cells" were opened; nothing was found there except some muco-purulent secretion, but not sufficient to account for the high temperature, so no attempt was made to open up the tympanum. The skull was then opened, but the dura mater did not bulge, and the lateral sinus was evidently not occluded, and the wound was therefore closed. Restlessness, rigors, pneumonia, and an abscess in the wrist, supervened. Streptococci were found in the blood. Injections of anti-streptococcic serum were then given, and the patient recovered.

The interest in this case lies in the great improvement manifested in the patient's condition after the serum treatment was commenced. The temperature did not fall, though the average altogether was lower than before the injection, but the continued high temperature was accounted for by the presence of the abscess in the buttock. When this was evacuated the temperature almost immediately fell to normal. In spite of the temperature being high, the patient's general condition improved markedly. From the time the injections were commenced she slept better, took her nourishment better, and was altogether more natural. The wrist cleared up, her pulse improved, and she was brighter and better, whereas before she seemed in an almost hopeless state. This improvement was shown to be due to the anti-streptococcic serum treatment, as when for two days the injections were discontinued (from 8.30 a.m. on March 22 till 6.30 p.m. on March 24) she was manifestly not so well, and she improved again with the recommence-

ment of the injections. Another point of interest is the complete disappearance of the organisms from the blood within twelve days of the commencement of the treatment. It is also interesting to note that streptococci were demonstrated in the blood and anti-streptococcic serum was used, as some cases of failure when anti-streptococcic serum has been tried may have been due to the organisms not having been streptococci. Altogether 205 c.c. of serum were injected.

StClair Thomson.

Rudolph and Bezold (Munich).—*Pathological Changes of the Middle Ear in Measles*. Report of Eighteen Autopsies. "Archives of Otology," vol. xxvi., No. 4.

Tobeitz's statistics are brought forward, showing that out of ninety-five cases of measles thirty-three ran an uncomplicated course, forty were complicated but terminated in recovery, and twenty-two died. All but three of the fatal cases revealed positive signs of middle-ear suppuration. The writers' investigations concerned eighteen fatal cases; they showed that at a very early stage there was a mucopurulent exudation in the tympanum, even though the Eustachian tube was comparatively unaffected; these facts supporting the view of Tobeitz of the middle-ear affection as a primary trouble, and not simply an extension from the naso-pharynx. Perforation was comparatively rare. The bacterial examination revealed, as a rule, the streptococcus such as is found in the destructive suppurative otitis occurring in scarlet fever and other infectious disorders. The mildness of the otitis in measles is therefore to be attributed to the less degree of diminution of the resistant power, and not to a difference in the micro-organism. Professor Bezold's examination of 1,807 school children showed that the percentage of defective hearing was not higher in those who had had measles, so that the prognosis is, on the whole, favourable.

[This observation is remarkable when contrasted with the frequency with which measles was given as a cause of deaf-mutism in Dr. Love's statistics—D. G.]

Dundas Grant.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, 1899.

THIS Congress is to be held in London from August 8 to 12, under the presidency of Dr. Urban Pritchard.

The British Organization Committee, which numbers over seventy members from Great Britain and the Colonies, has Mr. A. E. Cumberbatch for its Treasurer and Mr. Cresswell Baber for Secretary-General. It has also appointed the following sub-committees—viz.:

1. *Reception*: Vice-Chairman, Mr. Field.
Hon. Secretary, Mr. R. Lake.
2. *Excursion*: Vice-Chairman, Dr. Dundas Grant.
Hon. Secretary, Mr. P. Macleod Yearsley.
3. *Dinner*: Vice-Chairman, Mr. Mark Hovell.
Hon. Secretary, Mr. L. A. Lawrence.

4. *Museum* : Vice-Chairman, Mr. C. A. Ballance.
Hon. Secretary, Mr. Arthur H. Cheatele.

The President-elect is Chairman of all the sub-committees.

The meeting will be held at the Examination Hall of the Royal College of Physicians of London and Royal College of Surgeons of England, and the following details have been arranged :

On Monday evening, August 7, a preliminary reception will be held by the President-elect. On August 8, 9, 10, 11 the Congress will be in session. and will be followed on Saturday, August 12, by an excursion for members and their lady friends.

The official languages of the Congress are English, French, German, and Italian.

The subscription, to include a copy of the Transactions, is fixed at £1, to be paid to the Treasurer, Mr. A. E. Cumberbatch, 80, Portland Place, London, W., *before* the opening of the Congress.

The subject chosen for special discussion is "Indications for opening the Mastoid in Chronic Suppurative Otitis Media," which will be introduced by Professor MacEwen, of Glasgow; Dr. H. Knapp, of New York; Dr. Luc. of Paris; and Professor Politzer, of Vienna.

A museum of specimens and instruments relating to otology, shown by members, will be held during the meeting. All specimens, etc., to be in the hands of the Secretary by June 30 at the latest. Communications regarding the museum should be addressed to Mr. A. H. Cheatele, 117, Harley Street, London, W.

Intending members of the Congress are requested to send in their names to the Hon. Secretary-General as soon as possible, and in any case *not later than May 1*. Titles of communications, together with a short abstract of the same, to be sent to the Hon. Secretary-General by the same date. According to the regulations of the Congress, no papers shall exceed fifteen minutes in reading; therefore all long communications should be read in abstract.

REVIEW.

Holder.—*Handbuch der Laryngologie und Rhinologie*. Lief. 18, 19, 20. Wien, 1897.

The above parts of Heymann's manual are taken up for the most part by articles dealing with the diseases of the faucial, pharyngeal, and lingual tonsils. Dr. Kayser, of Breslau, writes a general introduction on the physiology and pathology of the adenoid tissue of the pharynx. After rehearsing the various theories which have been advanced in explanation of the function of the tonsils, he concludes that as yet we know nothing definite on the subject. If one is to

judge from the apparent impunity with which the adenoid tissue may be cleared out of the pharynx, there would seem to be some truth in the view of the distinguished physiologist, Kölliker, that in many parts of the body adenoid tissue is only a useful sort of padding, to fill up odd corners. The view that the adenoid tissue of the pharynx has a protective function to perform, by the destruction of pathogenic microbes, has nothing to support it from the clinical side. There is no parallel to be observed between the amount of that tissue present in a given case and the liability of the individual to infectious disease; in fact, the period of greatest susceptibility to infectious diseases is just when the adenoid tissues of the pharynx are most developed. Further, the tonsils are the favourite seat of infection in such diseases as scarlet fever and diphtheria. The fear which has frequently been expressed, that the removal of the adenoid tissues of the pharynx might in some way be injurious to the general health, has no support from clinical observation, but all experience points rather in the other direction.

The article on "Diseases of the Pharyngeal Tonsil" bears the names of the late Professor Gottstein and Dr. Kayser. The former, we learn from a footnote, planned the article, which has been very efficiently worked out by his colleague, Dr. Kayser. The article is an excellent one, and has the merit of being concise as well as complete, which is not too common in German writers.

Dr. Kayser, in discussing the difficulty often met with of deciding whether the pharyngeal tonsil is of normal size or hypertrophied, lays it down that operation is required "whenever the tonsil can be seen or felt to overhang the upper border of the choanæ." This does not appear to us to be a rule of universal application. As everyone knows, the amount of trouble caused by adenoid growths does not depend on their quantity, and we would suggest that operation is called for whenever there is evidence that the growths are doing harm.

The most unsatisfactory part of the article is that which deals with treatment. Operation without an anæsthetic is recommended, except in the case of older children who object and cannot be held quiet, and in operating under chloroform we are advised to prop the patient up! Operation with the hanging head, we are told, has been recommended, but is little practised on account of the increased bleeding which it causes. No one in this country, we hope, operates on young children without a general anæsthetic. If chloroform be regarded as involving too much risk, there is an ideal anæsthetic for this operation in gas and oxygen when skilfully administered.

The chapter on "Diseases of the Faucial Tonsils" is written by Dr. Bloch. It is very well done, notwithstanding the many difficulties which bacteriology has opened up in regard to the etiology of acute inflammatory diseases of the tonsils. The old clinical division into superficial, lacunar, and parenchymatous tonsillitis is no longer sufficient, and we do not yet know enough to make a bacteriological classification possible. There are two difficulties which meet us if we attempt such a classification. First, it is very difficult to say in any case which of the micro-organisms present is the primary cause of the tonsillitis, and which of them are merely developed secondarily in the diseased tonsil. Secondly, we are as yet unable from clinical characters to tell what micro-organism is present. Dr. Bloch, therefore, groups the acute inflammations of the tonsil under the heading "tonsillitis acuta," excluding diphtheria, and treating under separate subsections

"tonsillitis herpetica, tonsillitis phlegmonosa, and tonsillitis rheumatica." By the last term he does not mean, as English writers usually do, a tonsillitis in a rheumatic subject, or a tonsillitis for which we can find no definite cause, but one which is complicated by acute inflammation of one or more joints. There are no clinical characters which distinguish a rheumatic angina, for an inflamed joint has been observed to follow all forms of tonsillitis. The time, also, which intervenes between the tonsillar inflammation and the joint affection varies from a few hours to three or four weeks. Whether the joints are attacked by microbic or toxic infection is still uncertain.

A very interesting part of Dr. Bloch's paper is that dealing with the complications of acute tonsillitis. "The sufferer from acute tonsillitis," says Sallard, "is liable to as many severe complications as the man with a gonorrhœa." And certainly the list of recorded complications is a most formidable one, including infective lesions of every tissue and organ in the body.

One of our late colleagues on the JOURNAL OF LARYNGOLOGY, Dr. Michael, of Hamburg, wrote the article on "Diseases of the Lingual Tonsil," which was his last piece of work. It has been the fate of this tonsil to suffer at one time from unmerited neglect, at another from immoderate attention, and to have formed the battleground of contending specialists. We are of opinion that over-attention to this region is neither good for the specialist nor his patient. The amount of adenoid tissue in this situation varies greatly, and it seldom or never gives rise to symptoms except in neurotic subjects. That "globus hystericus" is caused by hypertrophy of this tonsil is true of only an exceedingly small number of cases: but where the complaint is of a foreign body at the root of the tongue, we shall probably find some objective condition to account for it. We may find, for example, that the edge of the epiglottis comes in contact with, or is even embedded in, the hypertrophied adenoid tissue. Those cases of reflex cough, asthma, and dyspnœa which have been attributed to hypertrophy of the lingual tonsil had never come within the experience of the author, and he, like ourselves, was very sceptical as to their existence.

The other diseases of the base of the tongue, tuberculous and gummatous ulceration, and the various new growths which occur in this situation, are briefly but sufficiently described.

Middlemass Hunt.

NEW PREPARATION.

Tabloid Krameria and Cocaine.

BURROUGHS, WELLCOME AND CO., of Snow Hill Buildings, Holborn, who have done so much for English pharmacy, now add still another to their long and useful list of tabloids. Krameria is quite the most useful vegetable astringent for all-round throat work, and the addition of a small quantity of cocaine increases their usefulness in acute affections. It is not improbable that krameria alone would find more favour, especially in many enlargements at the base of the tongue. This drug compression is most beneficial to the patient, for the slower solubility of the mass keeps a slow yet continuous flow of rhatany over the part. The old and usually, if not always, effete gargle is put one step lower by this preparation.

THE
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NON-DIPHTHERITIC PSEUDO-MEMBRANOUS RHINITIS.*

BY J. PRICE-BROWN, M.D., TORONTO, CANADA.

THIS is a non-specific inflammation of the mucous membrane lining the nasal passages; it may be acute, chronic, or recurrent, and is attended by a deposit of fibrinous exudation. The exudate presents the anatomical features of a false membrane, being imposed upon the epithelium, without involving, to any great extent, the deeper tissues.

That this condition should ever exist as an independent affection is still a matter of doubt with some observers.

Abbott, in the "Transactions of the Pathological Society of London," 1893, says that "cultivations from the supposed false membrane of the nose *always* contained the Klebs-Loeffler bacillus, although in some cases it was thought to be attenuated. Evidence is accumulating to show that these cases of so-called fibrinous rhinitis are merely mild local manifestations of the specific diphtheritic bacillus."

Professor Kanthach, in Albutt's "System of Medicine," 1896, says: "A curious and important pathological condition is the so-called rhinitis fibrinosa. Clinically such cases are not diphtheria; but pathologically and bacteriologically *they are*. In the cases I personally examined, I obtained, as others did, large numbers of virulent diphtheria bacilli."

* Read before the Western Section of the American Laryngological, Rhinological, and Otolological Society, at San Francisco, California, March 31, 1899.

Musser, "Medical Diagnosis," 1896, says that, in the diphtheritic form of acute rhinitis, the diagnostic symptom is the presence of false membrane in the nose. He says the nasal discharge is very acrid in diphtheria, and is almost sure to cause excoriation of the upper lip. On examination, a dirty-gray membrane is found within the nostril. Bacteriological examination confirms the diagnosis.

M. Eeman, at the Belgian Society of Otolaryngology, 1897, maintained the unity of pseudo-membranous rhinitis. He believed that this affection was always due to the Loeffler bacillus, reporting twelve cases which bacteriologically seemed to support his position.

M. Buys at the same time endorsed M. Eeman's view. In five out of six cases he had found diphtheria bacillus, while he believed the negative result in the sixth case arose from faulty technique.

Osler, in his "Practice of Medicine," 1898, refers to seventy-seven cases of membranous rhinitis, in which thirty-three were found to owe their origin to Klebs-Loeffler bacilli. All ran a benign course. False membrane was limited to the nose in nearly all. Constitutional symptoms were slight, and infection of other children was slight also.

"On the other hand," he says, "nasal diphtheria is apt to be most malignant . . . glandular inflammation being intense. . . . The infection may be primary through the nose."

The quotations from these authors would seem to indicate that they consider all cases of pseudo-membranous rhinitis, whether mild or severe, as really of diphtheritic origin; and that the lighter cases, characterized by absence of systemic symptoms, are in reality the result of an attenuated virus.

Notwithstanding this strong expression of opinion, many cases have been recorded which cannot but impress upon the mind the fact that membranous rhinitis does sometimes occur of a purely non-diphtheritic character. A few of these cases it will be as well briefly to relate.

In 1894 (JOURNAL OF LARYNGOLOGY) Brun Murdock reported a case of recurrent membranous rhinitis. The patient was a woman, aged thirty-three, a subject of hay fever. During a period of little over a year she had five different attacks of fibrinous rhinitis without any indications of true diphtheria. A number of microscopical examinations were made, but all failed to show any Klebs-Loeffler bacilli, though there were a number of micrococci of minor moment.

In 1894 Schiffer read, before the Belgian Society of Otolaryngology, a paper on "The Pathogenesis of Non-infectious

Croup of the Nasal Mucous Membrane," with the history of a case. The membrane was confined to the nasal cavities. The general symptoms were slight, save for the nasal membranous obstruction. Microscopical examination proved the absence of the Klebs-Loeffler bacillus. There was no sign of the disease being infectious.

Middlemass Hunt, at the meeting of the British Medical Association, 1898, in a paper on "The Relation of Fibrinous Rhinitis to Diphtheria," reported four cases of fibrinous rhinitis. He said the first case "was in every way a typical one, as the patient remained in good health, had no albumin in the urine, no glandular enlargement, and no subsequent paralysis."

His second case was that of a medical man, in good health, but who sought advice on account of nasal obstruction and profuse watery discharge. He had not been attending any cases of diphtheria, but had assisted in a post-mortem in a case of ulcerative endocarditis. Both nasal passages were filled with thick white membrane, which left a bleeding surface when torn off with forceps. Considering it to be a case of simple fibrinous rhinitis, no culture was made. Two weeks later the man had severe pharyngeal diphtheria followed by paralysis.

In Middlemass Hunt's third case, the child's nasal passages were lined with membrane, but there was no deposit on the pharynx or tonsils. On removal of the membrane, the surface was raw and bleeding. There was, however, no fever, no albumin in urine, no glandular enlargement; and culture showed no Loeffler bacilli, but the presence of staphylococci and streptococci.

Subsequent inquiry elicited the fact that she, with several other children associated with her, had suffered from tonsillitis a month or two previously, and that her case had been followed by paralysis of the palate.

The fourth case recorded was followed several weeks later by diphtheria in the family.

In summing up the history of these cases, Hunt seems to be of the impression that all but the first were cases of nasal diphtheria; and he doubts the possibility of distinguishing the two diseases clinically, using these words: "I am afraid there are no clinical characters on which we can rely in distinguishing the two diseases, and our one method is to turn for help to the skilled bacteriologist."

In the light of the history he gives, and judging further by his "one method," his third case could scarcely be one of nasal diphtheria, whatever might be said of the second and fourth.

Richard Lake, *Laryngoscope*, September, 1898, gives the

history of a case of chronic pseudo-membranous rhinitis, on the right side, in a man aged fifty-four. The patient, a hay-fever subject, had unusual pallor, and there was present within the nares, together with the false membrane, a chronic discharge of coagulated secretion. Treatment only had a temporary effect, and on returning for examination ten months later, the disease had increased in severity. The right nasal cavity was filled with a gelatinous mass, resembling the "white" of a plover's egg, and from it was obtained a pure culture of *Staphylococcus pyogenes aureus*, without other septic germs of any kind whatever.

As Lake so pointedly says, "it is only within the last few years that a distinction has been made between diphtheria nasi and membranous rhinitis;" but, in Bosworth's words of years ago, "What the germ is, the pathological laboratory has not yet told us."

Staphylococcus pyogenes aureus is the one usually found in a culture of the simple membranous disease; but neither can it nor the streptococcus claim to be its special progenitors, as the pathological conditions in which these organisms are found are almost infinite. Bacteriologically, however, we can exclude diphtheria; and it is safe to say that any nasal pseudo-membrane which, on careful investigation, fails to exhibit the Klebs-Loeffler bacillus may be set down as non-diphtheritic, particularly when supported by the clinical history of the case.

That primary nasal diphtheria does sometimes occur cannot now be doubted, but, still, it is exceedingly rare. Lennox Browne, in his new work on "Nose and Throat," 1899, says that statistics have proven that it only occurs two times in a thousand cases, while nasal diphtheria by extension from the pharynx occurs in 21.3 per cent. of all cases.

On the western side of the Atlantic I believe it is even still more rare. In a professional experience of thirty years, I have never seen a case of primary nasal diphtheria; and in answer to inquiry among a large number of my professional brethren, with one exception, the same answer has been returned. This exception occurred in the experience of my friend Dr. T. F. McMahon. He has seen two cases. Both occurred in children. In the one, the throat being unaffected, a culture was made from the nasal false membrane, abundant Klebs-Loeffler bacilli being found. In this case the child died. In the other, the Klebs-Loeffler bacilli were obtained from a nasal culture likewise, the throat at the time being unaffected. Subsequently the membrane extended to the pharynx

and tonsils. This child recovered. In each case diphtheria appeared in other members of the family.

In reference to the results of observations by recent writers upon non-diphtheritic membranous rhinitis, I might quote the following :

McBride says : " The intense local discomfort, together with the absence of all constitutional symptoms, in typical cases, form an easily recognised combination."

Hamilton Potter says : " The membrane is firmly attached to the parts beneath, and is only detached with violence, leaving a bleeding surface."

Walsham says : " The points chiefly to be relied on in distinguishing fibrinous rhinitis from nasal diphtheria are the absence of constitutional symptoms, of glandular enlargement, of albumin in the urine, and of paralytic sequelæ."

Lennox Browne says : " This membrane may be removed without exposing a bleeding surface. Risk of contagion is remote. Cultivation and inoculation experiments give negative results. The neighbouring glands are not involved, and no one has found the Klebs-Loeffler bacillus."

The fact is that in simple membranous rhinitis, except for the nasal obstruction, symptoms are largely absent. The nostril—the disease being frequently unilateral—may be blocked completely by the false membrane, but the discharges are unirritating, and at the same time lack the peculiar odour for which diphtheria is distinguished. The clear whitish colour of the membrane remains unchanged, and in some cases it can be removed without producing hæmorrhage, though the latter is not in accord with my own experience in idiopathic cases.

With reference to the statement that a similar false membrane is always produced by the application of the galvano-cautery to the mucous surface, it must be remembered that this protective covering is only formed upon the spots cauterized, whereas in fibrinous rhinitis the whole mucous lining may be affected.

Sometimes, however, the effect of cauterization is not so limited, and the burning of a single spot within the nasal cavity may induce the formation of false membrane throughout the fossa. Although this fact is well known, the literature upon the subject is so meagre that the report of a case may not be without interest.

In September, 1895, a young lady, aged twenty-five, came to me for treatment for hay fever. On examination, there was nothing unusual in the appearance of the nasal passages, except that the inferior turbinateds were very much enlarged. Otherwise

they had the ordinary pale purplish hue usually found in such cases. Under cocaine I burned each inferior turbinated body at the one sitting. Twenty-four hours later, on her return for treatment, both nares were stenosed, and the lining of the passages was covered with false membrane. It was of a clear bluish, translucent colour. All that I could do for her relief was to apply a solution of cocaine, followed by vaseline. The membrane gradually became thicker, retaining its colour. In two days it commenced to loosen, and I removed it in large flakes with the forceps. They left a clear surface without hæmorrhage. The subsequent treatment was simply a spray of albolene several times a day to the nose. Recovery was rapid, and the relief to the hay fever complete.

Two years later, in September, 1897, she returned for treatment, again suffering from hay fever. She said she had none the previous year. On examination, the inferior turbinateds were all right, but the middle ones were swollen, and pressing against the septum. I again used the cautery. After applying cocaine on absorbent cotton, I passed the electrode between the septum and middle turbinated on one side, and, pressing outward, seized the surface. A small tampon dipped in albolene was then put in to keep the parts asunder, the operation being repeated on the opposite side.

When she returned for treatment the following morning, the condition formerly produced by cauterization had been repeated, the whole lining membrane of each nasal fossa being seemingly coated with a fibrinous layer. The subsequent treatment was the same as on the former occasion, with a like result.

Although I have used the galvano-cautery for many years very frequently, this is the only case in which I have known it to produce false membrane in the nose, outside of the spot to which it had been applied.

Since treating this case of traumatic membranous rhinitis, I have had under my care two cases of idiopathic membranous rhinitis. They both occurred in the spring of 1898, and the following is a brief history:

Case 1: Miss M. L——, aged seventeen, a clergyman's daughter, had had stenosis of left nostril for two weeks, accompanied by watery discharge and sometimes a little bleeding. Right nostril was quite free. There had been neither fever nor systemic symptoms of any kind. Examination: About 1 centimetre within the alæ, the passage was filled with what appeared to be false membrane of a whitish-yellow colour. Some sero-mucous discharge, but no soreness nor excoriation of lip. No history of diphtheria in family before or after.

After applying cocaine, I removed several pieces of membrane

that appeared to be loose. They were taken from the septum and inferior turbinated; slight hæmorrhage followed. The surfaces were then brushed with a 5 per cent. solution of nitrate of silver, and sprayed with a quarter per cent. solution of thymol in albolene, the latter to be repeated by the patient several times a day. Internally I gave iron and glycerine.

The patient returned to the office at intervals of two or three days for treatment for several weeks. On each occasion fragments of membrane were removed by forceps, and when bleeding occurred the points were touched with the nitrate of silver solution, the thymo-albolene spray being continued as before. By the end of the second week the membrane ceased to form. Some inferior turbinal enlargement was then touched with the galvano-cautery, and at the expiration of another week the patient was well. There has been no recurrence. Microscopical examination of a culture of the membrane, kindly made by Dr. J. R. Wilson, revealed nothing but *Staphylococcus pyogenes aureus*.

Case 2, External Department, Western Hospital: Girl, aged five years, referred by a member of the staff, as the right nostril had been completely blocked for some time. She was one of a large family. No family history of diphtheria before or after.

On examination the child's throat revealed nothing. There was no fever, no odour, no excoriation. The left nostril was free. The right nostril was filled with what I took for the moment to be a white foreign body of some kind, which I supposed had been inserted. After applying a solution of cocaine, the child submitted to manipulation, and the substance proved to be false membrane, that could be removed in fragments by the forceps. This, like the former case, showed a tendency to slight hæmorrhage on stripping off the membrane. Similar treatment, too, was likewise followed, with the exception that the home application was simply vaseline frequently applied. In three weeks the patient was quite well. Isolation was not enforced. Microscopical examination in this case was not made; there were, however, no developments, either before or after, which would in any way lead to the belief that the case was diphtheritic.

In closing this paper I may perhaps venture to draw the following conclusions:

1. That non-diphtheritic pseudo-membranous rhinitis does sometimes occur, and, though a very rare disease, it is probably as frequent as *primary* nasal diphtheria.

2. That on clinical grounds alone it is possible, in a majority of cases, to distinguish it from genuine diphtheritic disease.

3. That, owing to a possible mistake in diagnosis, isolation in all cases should be imperative, until a reliable bacteriological examination can be made.

THE CONNECTION OF THE FEMALE GENERATIVE ORGANS AND LARYNGEAL AFFECTIONS.

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THE knowledge that some connection existed between the sexual apparatus and the vocal organs in males was known in remote antiquity among the Orientals, from the change observed in the character of the voice of the then familiar household servant, the eunuch. As the human mind progressed through various ages until the desire for music had become a prominent feature of Eastern life, attention was riveted on the harmonious voice of the young eunuch, and the practice of castration was made the means of livelihood in preparing boys for the church. Even until modern times the Italian castrated boy sopranos were of world-wide fame. F. V. Stein (1) has described a large and prosperous sect in Russia, known as Skopzi, and characterized by requiring castration of all its male members. After this sect had existed for some time as a secret society, attention was called to it by the change in the voice of its members.

In the lower animals the influence exerted by the sexual organs over the laryngeal mechanism is well shown by the stag roaring for its mate during the rutting period, but yet never producing laryngeal sounds at other times; this is also observed in birds making increased vocal efforts during the breeding season, and in the singing birds the rhythm and flow of song is more beautiful during their sexual periods than at any other time.

In a few observed cases of male singers of mature age where castration had been performed, or the generative organs were destroyed by disease, marked changes were noted, not only of the speaking, but especially of the singing voice. At the age of puberty the larynx grows rapidly, and the voice of a boy "breaks" in consequence of the lengthening of the cords, generally falling an entire octave in pitch; a similar change, but much less in amount, occurs at the same period in the female. In many individuals coughing can be excited by stimulation of distant

sensory nerves, as from the uterus, mamma, and ovaries. (2) From these observations it can readily be seen that some connection, be it what it may, exists between the generative organs and the larynx, not only in the male, but also in the female sex. A strictly scientific explanation of these phenomena, both in health and disease, is not always discoverable, but that such an intimacy does exist may be accepted. The extreme delicacy of the mechanism of the larynx as concerned in phonation and vocalization renders it reflexly susceptible to slight changes in other portions of the organism, the proper and accurate adjustment of the vocal cords necessary to the singing voice requiring an elaborate and perfect nerve control. As will be seen later on, we must have perfect innervation of the laryngeal apparatus, or its usefulness will be seriously impaired.

Following out this line of reasoning, and studying the nervous mechanism of the vocal organs, and then observing the intimate connection of the sympathetic nerves with the female generative organs, and our speciality as to the influence exerted by one or the other will with some scientific accuracy be permissible. Anatomically the female larynx differs considerably from that of the male in being only about one-half as long and yet very nearly as wide as the male vocal organ; the rima glottidis is also one-third shorter in the female. The natural position of the larynx is on a plane considerably higher in the female; this disparity in shape, size, and position accounts for the difference in the register of the voice between the two sexes.

The relation existing between the two organs may be either through the bloodvessel connection or by way of the nervous apparatus, the sympathetic and vaso-motor nerves principally acting in both instances. Let us take as a hypothetical case a woman with a moderate degree of catarrhal laryngitis of some years' standing, from some cause not here necessary to specify: uterine congestion occurs, a few hours later there is aphonia. The question naturally arises, as to the relation between the two affections, Is the aphonia due to the pre-existing laryngitis, or is it dependent upon the uterine congestion? Local treatment of the larynx is without avail, but immediately after the proper treatment directed to the uterus has been applied, the aphonia disappears, to return only when the pelvic organs again depart from the normal. A prejudiced mind only would hesitate in ascribing some relation to cause and effect between the larynx and uterus. In what way or manner is this correlation of sexual and vocal organs brought about? A study of the nervous connection between the two organs

will greatly aid in elucidating the problem. The irritation from the diseased uterus is first transmitted through that portion of the pelvic sympathetic system known as the inferior hypogastric plexus, being in intimate association with the female pelvic organs. From this plexus we find the reflex action transmitted to the solar plexus; intimately associated with this group of nerve tissue are fibres of the pneumogastric nerve. As the motor fibres of the pneumogastric nerve are derived in great part from the spinal accessory, and these fibres are in direct relation with the larynx through its motor supply, the inferior or recurrent laryngeal, it becomes apparent through what nervous mechanism the uterine irritation is expressed by various laryngeal manifestations.

That this relation of the spinal accessory or recurrent laryngeal motor fibres to the larynx exists is shown by experimental section of either of these two nerves, with consequent complete loss of voice. Pressure by neighbouring morbid growths to the point of complete isolation of these fibres produces the same results. Among the fibres of the sympathetic are found branches going to the œsophagus, thyroid gland, and larynx, controlling and regulating the tonus of the bloodvessel walls; these are the so-called vaso-motor nerves. These fibres are at the upper portion of the great sympathetic system, and at its inferior portion we also find special vaso-motor fibres supplying the vagina, uterus, and ovaries. Stimulation of all these nerve channels causes increased activity of the organs (*i.e.*, uterus and larynx) supplied by them, and at the same time there is produced contraction of the vessel walls, resulting in a diminished supply of blood. Section of these nerves is followed by dilatation of the bloodvessels, with subsequent derangement of the circulation, and ultimately of the nutrition. The morbid nerve impulse, originating from the uterus or ovaries, may therefore produce changes in the larynx in two ways: either by reflex inhibition of the inferior laryngeal through the vagus and sympathetic, or by irritation of the vaso-motor apparatus, with resultant disturbance of the laryngeal blood-supply, as seen above. Probably, in the majority of cases, both these means are factors in the production, not only of the voice alterations, but in the changes seen in the mucous membrane, such as anæmia or congestion.

The alterations as revealed by the laryngoscope may be those seen in the various forms of catarrhal inflammation incident to this organ, or various paralyses or spasms of the cords may also be observed. In a number of cases, however, nothing will be revealed on examination, as the following case will show:

Madam C. S., aged twenty-seven years, a professional singer, soprano, married, became pregnant. Came to my office complaining of complete aphonia. She stated that the loss of voice came on ten weeks after conception, and has remained so ever since. Examination of the nares, fauces, pharynx, and larynx revealed nothing, the latter organ to all appearances being normal. Three weeks after the birth of her child the voice suddenly returned, and is now more beautiful than ever, and has continued so since.

Seiler (3), who has given a great deal of attention to this somewhat obscure subject, says that he has observed a peculiar condition of the mucous membrane of the upper air passages, which is neither an anæmia nor a congestion and yet is abnormal, and this pathological condition is found to be invariably caused by morbid changes in the female pelvic organs. So certain and distinct is the evidence of uterine disease in the upper air passages that the laryngologist can diagnose the presence of uterine trouble merely by the inspection of the pharynx and larynx. To conclusively prove that the diagnosis of uterine disease could be made with the laryngoscope, Dr. Seiler, in conjunction with Professor Howard A. Kelly, made a series of investigations: the larynx was examined and the diagnosis of uterine disease was made. Without seeing the diagnosis already made, Professor Kelly made a vaginal examination of the cases, and in every instance confirmed the views of Dr. Seiler. He further says: "By slight differences in the appearance of the mucous membrane and in the position of this pathological condition of the upper air passages, a distinction can even be made between uterine and peri-uterine disease, and I have found that when the condition referred to is more prominent in the larynx and pharynx, the case is intra-uterine." This condition of the larynx, so ably described by Seiler, consists in a peculiar bluish-red tint of the mucous membrane, compared to the atmosphere of a clear sunset in the fall of the year. The membrane itself appears relaxed, and here and there over the surface there is enlargement of the follicles with a "muddy" appearance of the vocal cords, which are also relaxed and apt to flutter during the production of low notes; the secretions are but slightly increased in amount. The subjective symptoms are a slight hacking laryngeal cough, little or no expectoration, and a feeling of heat and burning in the throat, and in many cases a feeling of choking coming on at irregular intervals usually from excessive mental or physical exertion.

The second case illustrating this subject came to my office complaining of metrorrhagia and hoarseness. Patient was eighteen years of age. Had had numerous severe hæmorrhages from the

uterus, these hæmorrhages being invariably followed by hoarseness. Examination of the larynx showed extravasation of blood into both vocal cords. The local condition was not treated, but constitutional remedies were given for the anæmia present, and after eight weeks the extravasations gradually disappeared and the voice became normal, remaining so until the present time, now a lapse of two years. Patient has not had any hæmorrhages during this period. Is now married and pregnant.

During the various changes incident to the female life certain peculiarities appear as affecting the larynx reflexly from the generative organs, both from the ovaries and uterus, but especially from the latter organ. The changes observed in the larynx will be taken up in the following order: Larynx at puberty, during adult life, at menstruation, at the menopause, and during pregnancy.

Puberty.—At the stage of puberty in the female, as before seen, there is increased growth of the larynx, with certain modifications in the voice, already mentioned. The most frequent affection that occurs as the result of the rapid developmental changes in the generative organs is spasm of the glottis (4). This occurs as one of the protean forms of hysteria, and females at the age of puberty seem especially liable to transient glottic spasms. At this time we also see sudden congestion of the larynx, especially before the appearance of the first menstrual discharge. The excessive flow of blood to the vocal organs is but temporary, and is due to the unstable condition of the vaso-motor system at this critical period in the life of the young girl. If the larynx be examined, it will be seen to be excessively red in colour, with the vessels prominent over all parts except the vocal cords, which remain unaffected; the ary-epiglottic folds and interarytenoid space are coloured a deep red, and the epiglottis is similarly affected. This may occur several times during the day, and lasts but a few minutes, disappearing as rapidly as it came. If the congestion continues for any length of time, œdema of the glottis will result, often requiring active measures for the relief of the dyspnoea.

Adult Life.—Under the caption of changes seen in the female larynx during adult life are included all the conditions the result of uterine disease not occurring during any particular epoch as menstruation, the menopause, etc. Many of these laryngeal affections have been ascribed to hysteria, but careful study of the case has later developed the genital tract as being active in the production of the laryngeal disorder. During the female adult life many varieties of pelvic disease manifest themselves. In a certain number of these cases the larynx becomes affected in various ways as a

result of the pelvic disorder. For the sake of systematic study we may divide the laryngeal affections into two general classes: those affecting the voice without observable changes in the larynx, and, secondly, definite morbid alterations of the laryngeal structures, readily seen by laryngoscopic examination, and remaining unchanged in spite of direct treatment applied to this region, but rapidly disappearing on removal of the uterine or ovarian irritation. In the majority are the so-called hysterias affecting the larynx without appreciable lesions. The following case, observed by S. Johnson Taylor (5), will illustrate this form of reflex action:

A female suffered from hysterical aphonia for thirteen years; various forms of laryngeal and constitutional treatment were used, but had no effect on the loss of voice. Examination of the larynx gave no evidence of disease. At the expiration of this time an ovarian cyst was diagnosed and removed, and immediately after the operation the voice returned to its normal condition.

The relation of cause and effect is beautifully shown in this case; the protean manifestations of uterine or ovarian irritation usually concern the laryngeal motor apparatus, the sensory nerves not being affected in many instances, although pain referred to the region of the epiglottis, or even to the interior of the larynx, may occur as the result of endometritis and misplacements of the uterus, this latter condition, and especially a bad grade of retroflexion, being in my experience quite a common cause of cough. The cough in this instance is irritative, as if a foreign body were present in the larynx, and resembles to a great extent that produced by hypertrophy of the lingual tonsil. It comes on frequently, not in attacks, but is quite constant during the day, and disappears at night, and is short and sharp, and not productive of expectoration. Examination of the upper respiratory tract, and especially the larynx, will show nothing except in long-standing cases, where from the constant expiratory blast a moderate degree of passive congestion has taken place. Replacing the uterus in its proper anatomical position causes an almost miraculous disappearance of the cough, and the laryngeal congestion rapidly subsides.

The paralyses of the intrinsic muscles concerned in vocalization may be so varied, and at the same time coincident with spasm of some of the other muscles, that a diagnosis is somewhat difficult. This is especially true when the cause lies in the generative apparatus, as one muscle alone may be affected or an entire group. Adductor paralysis is probably the most common form, as seen in hysteria dependent upon disorders incident to the female. Morell Mackenzie (6) reports one case—a spinster, aged thirty-seven years,

suffering from aphonia of two years' standing. Previous to this, she had for some time been treated for the uterine disease; she was very weak, but free from organic disease. On vocalization, the cords were approximated properly in the anterior three-fourths of the glottis, but remained widely open in the posterior fourth, leaving a triangular area of separation. Various remedies were tried, both constitutional and anti-hysterie, and endo-laryngeal faradism was employed, but no sounds could be elicited. The case was then anæsthetized; but on recovering consciousness the voice did not return. Although this case was under his observation for twelve years, the voice was never restored.

I think it is agreed by the majority of observers that the uterus is more often at fault than its appendages. In singers imperfect voice is seen much more frequently from uterine disease than from ovarian, although, of course, the ovaries may in some cases of aphonia and irritation of the mucous membrane of the larynx play the all-important part as the etiological factor. It is quite common in hysterical subjects to find areas of anæsthesia, paræsthesia, and especially hyperæsthesia, situated over various organs, the ovarian regions being especially the site of these perverted or sensitive areas. In other cases pressure over one or both ovaries may elicit exquisite sensitiveness without pain in other portions of the body; in a few cases pressure in this region will elicit pain elsewhere, and, as intimately connected with our subject, the distant area of perverted sensation may be the larynx. Trifilette, of Naples (7), reports a case of hysterical aphonia in which there was a hysterogenic zone over the left ovarian region; pressure on this area would invariably produce a lowering of the voice. As in the majority of these cases, the larynx was normal. Changes in the singing-voice, and less rarely in the speaking-voice, from disease of the generative apparatus are comparatively frequent, especially in professional singers; and, as will be seen later on, this voice alteration occurs usually during menstruation, but it may occur at any time, especially if much strain has been put upon the vocal organs. As has been seen, the nervous mechanism governing the movements of the vocal cords must be in perfect order to produce the best results. A slight disturbance will affect the number of cord vibrations necessary to produce a given note, and it is often the cause of much astonishment that laryngeal disturbances are not more often produced.

In the second class of cases occurring under this heading, we find well-defined lesions of the laryngeal mucous membrane resulting from the uterine diseases. Congestion is most frequent, varying in degree from a mere fugitive blushing of the mucosa to intense

blood stasis, causing the entire interior of the larynx to become deep-red in colour, and if continued for any length of time ultimately crossing the border-line, and developing into a subacute or chronic laryngitis. The degree of congestion present in the larynx as a general rule bears no relation to the amount of disease present in the uterus. A mild catarrhal endometritis may be the cause of an intense form of laryngeal inflammation, while severe inflammation of the endometrium with stenosis of the cervical canal will be productive of but a slight cough, with possibly little or no congestion or changes of any kind observable in the larynx. Anæmia of the larynx may be the principal sign of involvement from uterine changes, especially if a long-continued metrorrhagia has existed. Spasm of the glottis, or of individual laryngeal muscles, may be seen, due to a uterine fibroid; as, like that mentioned previously in regard to congestion, the degree of spasm bears no relation to the size of the uterine growth. C. H. Leonard (8) reported the case of a young woman, a professional singer, with antelexion and narrowing of the uterine canal with severe endometritis. No changes were observed in the larynx, but there was a loss of the purity of her tones and lessening of the range; from being a high mezzo-singer she could only sing contralto. After appropriate uterine treatment, with no laryngeal medication whatsoever, she not only recovered the singing-voice, but gained in addition two full notes.

It is difficult at times to realize why the larynx should become affected, and yet present no macroscopic change. That there are some microscopic lesions of the deeper laryngeal tissues or changes in the nerves seems necessary, to allow of the loss of phonation or change in the character of the singing-voice. In all these cases there are probably laryngeal changes, which, although not perceptible to the eye, yet render the organ susceptible to the least disturbance of nerve origin elsewhere in the body. In singers, from the constant use of the vocal organ, and often after its improper use, especially in the actress, where occasion has demanded a change of voice other than usually used, some bad results must be seen; and it is chiefly in this class of patients that we observe the effects in the larynx directly caused by some weakness in that organ, already inherent, but remaining latent possibly for a considerable period of time, and is kindled into a flame by the uterine disease.

The Menstrual Period.—The phenomena presented by the larynx during the menstrual period will to a great extent depend upon two factors: whether the generative organs are healthy or diseased at the time of the monthly flow. This period of the

female life seems prolific in producing laryngeal disorders. During the first few periods of menstruation a group of laryngeal symptoms are sometimes observed, and known as "chorea laryngis" or laryngeal vertigo. There is a momentary spasm of the glottis, preceded by a tickling sensation in the throat, expiration of air is arrested for a moment, then a loud cough relaxes the spasm. This is frequently followed by insensibility for a few minutes, but no stupor results. The attacks may come during sleep, and are characterized by spasms of the laryngeal muscles, the inco-ordination of muscular movements produced resulting in a series of peculiar sounds resembling the bark of a dog. A nervous laryngeal cough is sometimes an accompaniment of the menstrual period, being most marked at the beginning and termination of the flow, and in the interval practically being held in abeyance. Certain changes in the voice are frequent during this period in some cases; the voice may be husky, resembling the masculine voice very much, and changing from day to day, dependent apparently upon the quantity of the menstrual flow.

Of more importance and more often seen, and but too frequently neglected by the laryngologist, are the changes in the singing-voice during the menses; these alterations are as numerous and varied as there are women affected, each case being a study of itself. The gravity, force, and timbre of the voice are defective, and so well known is this effect of menstruation upon the singing-voice that many prominent vocalists rest their larynx at this time, or, if absolutely necessary to sing, will use the vocal organs as little as possible. If the voice is used in one in whom the uterine congestion affects its quality at the regular monthly periods, we shall find on examination of the cords that they are slightly congested, while the interior of the larynx will be redder than normal. Should excessive use be made of the voice at this period in a susceptible female, an acute laryngitis is very apt to result, differing in no way from the ordinary laryngitis except in its etiology and the violence of the inflammation, ameliorating on the cessation of the menses, but leaving a moderate degree of hyperæmia and inability to vocalize for a few days afterwards. From the same cause hæmorrhage into the vocal cords may result, as in the case reported by Poyet (9) of an opera-singer obliged to strain her voice during the menstrual period. There was a submucous hæmorrhage of both vocal bands; this occurred several times in the same situation and from the same cause. Instead of being confined to the cords, the extravasation of blood may be distributed over various parts of the larynx, constituting a typical hæmorrhagic laryngitis, as seen in the

following case: A female, aged thirty; during a menstrual period, without any extraneous causes, the symptoms of laryngitis appeared. The case was seen by Treitel (10), who, on laryngoscopic examination, found extravasations of blood at various points of the laryngeal mucosa.

When the generative organs are the seat of pathological changes reflex manifestations are occasionally seen in the larynx only at the menstrual period, or, if amenorrhœa exists, the affection of the upper respiratory tract will become evident at the time during which the flow should have been present. In shop-girls, who are compelled to stand for many hours at a time, we often find them subject to a nervous laryngeal cough; invariably associated with this cough we find dysmenorrhœa and frequently a mild grade of ovarian irritation. One case seen several years ago, of which the notes are not now available, required the injection of morphia to relieve the intense pain from which she suffered; dysmenorrhœa was present at every period, and accompanying it was a sharp, nervous cough, disappearing in the interim. As further illustrating this condition, may be cited the case seen by De la Sota, of Seville (11): A young lady, aged twenty-five years, somewhat hysterical, had suffered for two years from uterine disorders. During treatment for this condition copious menstruation occurred; this was followed by a complete suppression for two months, and at the expiration of that time, coincident with the menstrual period, there was an attack of hæmorrhage from the larynx and laryngo-pharyngeal catarrh.

Various paralyses of the laryngeal muscles may occur during the menstrual flow, being identical in character with those observed as the result of other conditions. As in the majority of cases when the element of hysteria is present, the adductor group of intrinsic muscles are the ones usually involved. Mackenzie cites a case due to amenorrhœa. This form of paralysis is very common in dysmenorrhœa and other menstrual disorders, especially in single women between the age of thirty and forty years. Compaird (12) reports an extremely interesting case of a young girl, twenty-one years of age. She had not menstruated for one year, but, replacing it at each period, she suffered an acute attack of laryngitis. Previous to this her menses were normal, and there were no laryngeal troubles. At the time of observation, in addition to the laryngitis and amenorrhœa, there was chlorosis, exophthalmic goitre, and tachycardia. In some respects this case calls to mind the so-called vicarious menstruation, in which peculiar condition epistaxis or laryngeal hæmorrhage usually takes place at the monthly periods

of the menstrual flow; but in a few cases cardiac pains, frontal headache, or, as seen in this case, laryngitis may be the alternate.

The Climacteric.—During the climacteric period the pelvic organs undergo a transitional stage, and are unusually susceptible to pathological changes. At this time reflex changes are common in various parts of the nervous system, and occasionally the larynx is more particularly the seat of the reflex action. Semon (13) has contributed to medical literature his experiences of the "sensory throat neuroses" seen at this period, and, as it contains many valuable suggestions, will be quoted more or less extensively. In all these cases a neurotic or hysterical element is prominent. The sensations referred to by the patients may be of two kinds, either parasthesias or neuralgias; but these sensations differ in each case, being described as if a foreign body was present, or burning, scratching, dryness, soreness, tickling, and, in fact, nearly all the forms of perverted sensations are described, so that the list may be extended in an indefinite manner. Some of these sensations, such as the dryness, as claimed by this author to be due to the "change of life," are very probably the result of pre-existing pharyngeal catarrh of the atrophic form, the sensation of intense dryness, as seen in this disease, often being referred to the laryngeal region.

The location of an abnormal throat sensation is most difficult; it frequently happens in my experience that a foreign body, such as a minute bristle or fish-bone, located in one of the crypts of the faucial tonsil will be described by the patient as being in the larynx, or *vice versâ*. It is the same way with these parasthesias at the menopause, the patient with great difficulty locating the area of perverted sensation.

The neuralgic pains are more frequent in the pharynx, radiating to the ears, and located in a definite area; but more rarely they are complained of as being laryngeal, and then seem to vary in location, constantly shifting from one side to the other, or remaining in one part of the larynx for twenty-four hours and then changing to another part, the mere protean character being a valuable aid in the diagnosis. The intensity of the laryngeal sensations vary greatly, in the majority of cases being merely uncomfortable, but in a few extremely neurotic individuals intense pain may be complained of. This condition occurs usually in the better class of patients, and especially among educated women. General bodily depression may be well marked, and if the pain is long continued and severe, the early signs of melancholia may be observed. These throat symptoms may precede or accompany the menopause, in some cases being the first and only sign of the

impending sexual changes, or, in an equally large number of cases, will be associated with the other phenomena accompanying the climacteric period. The objective symptoms are not in any way characteristic; in this class of cases, when the nervous throat disorders are the result and part of the change of life, nothing will be seen on laryngeal examination to give any clue to the distress complained of. Of course, in the majority of all women who have reached the age of the menopause, throat changes are very common, an absolutely normal throat being a rarity, so that we will often find some atrophy of the oro- or laryngo-pharyngeal tissues, or slight enlargement of the lingual tonsil. As the larynx is not so often affected as is the pharynx, we will rarely find any conspicuous changes.

These neuroses disappear on the cessation of all the phenomena of the menopause, but judgment must be exercised in making known the prognosis, as in many cases the changes may last for two or more years, the laryngeal symptoms continuing until the organism has settled into its new conditions. Care must also be taken, in making the diagnosis of this condition, that due credit be given to any pathological changes in the larynx that may exist at the time of the menopause, and possibly be the cause of the parasthesia, etc. Because a woman at this period complains of various neuroses of the larynx, it does not always signify that the generative organs are the *focus et origo* of the trouble; the diagnosis can only be made by eliminating other factors as causative agents.

As we have seen in other periods of the female existence, inflammations of the laryngeal mucosa may be present from changes in the sexual apparatus as well as pure nervous changes. This applies equally well to the menopause. All grades of inflammatory laryngeal troubles may be seen, but a mild form of laryngitis, lasting but a few days, then repeated at frequent intervals, is most common. In a large number of cases a mild grade of previously existing catarrhal laryngitis becomes more marked, while in a few cases a subacute form of catarrhal laryngitis with little tissue change continues during the entire climacteric period. The voice in these cases is rarely affected, although it may be slightly husky in the morning, but immediately becomes clear after removal of a small particle of mucus which has collected in the larynx during the night. Glasgow (14) reports six cases of spasm of the glottis incident to the menopause; in four there were catarrhal laryngitis, in one a malignant uterine tumour, and in the sixth no cause of the laryngeal œdema was ascertainable except the period of life. In the last case the attacks lasted for two years;

there had been an entire cessation of menstruation, and after a profuse uterine hæmorrhage they entirely disappeared.

Pregnancy.—During pregnancy the larynx, like many other parts of the body, may participate in reflex actions due to the changes taking place in the generative organs. Laryngeal reflexes in comparison with the other irregular symptoms incident to the pregnant state are quite rare. The case of aphonia as previously described was a typical example of uterine reflex action from this condition. An irritative cough is occasionally observed in pregnant women, in some cases so severe as to alarm the patients; no changes are observed in the upper respiratory tract, and, despite medication, it continues until the woman is delivered, when it immediately ceases. In other cases the cough may be but slight, replacing the familiar morning sickness; after arising in the morning there will be a severe spell of coughing, without expectoration, lasting for several minutes, then it will not be present again until the next day at the same time. In a case quoted by Lennox Browne of nervous laryngeal cough due to pregnancy, it always occurred in the early days of conception, and invariably at the period of "quickening." This woman had several children, and the first symptoms of pregnancy was the cough; she regarded it as pregnancy even before other circumstances confirmed her state.

Spasm of the glottis and inflammation of the larynx may also accompany the pregnant state, grave morbid alterations of the laryngeal structures being rare at this time; but a unique case reported by Bayer (15) merits a somewhat detailed description. His case was a female, aged thirty-four years, complaining of pronounced symptoms of laryngeal obstruction, with dyspnœa, cough, aphonia, and expectoration. Laryngeal examination revealed an ulcerative laryngeal tuberculosis, with tumefaction of the epiglottis, arytenoids, and inflammation of the larynx. The glottic opening had become so reduced in size from the swelling that tracheotomy seemed indicated at short notice. A short time after this the woman, who was three months pregnant, aborted and had several uterine hæmorrhages; eight days later the tumefaction of the larynx had so diminished under the severe hæmorrhages occurring as the result of the abortion that tracheotomy was no longer indicated. In commenting on this case, he makes the statement that one must never neglect to ascertain the condition of the generative organs in females suffering from important laryngeal disorders.

After operations on the uterus or ovaries, no pathological laryngeal changes occur, as far as ascertainable from the literature on the subject. The singing-voice is sometimes changed after

removal of the ovaries, but as far as the talking-voice is concerned, but little alteration can be observed in the majority of cases, while in a few women the voice seems to become coarser in the lapse of years; that this has any relation to the oöphorectomy is somewhat doubtful. I have studied the speaking-voice (the girl could not sing) in one case of a young woman, eighteen years of age, who had had her ovaries removed; and now, after a lapse of five years, no vocal changes have appeared. As far as the singing-voice is concerned, it seems that some alterations in its character take place in a limited number of females after removal of both ovaries. Castex (16) carefully studied the voice in six women, under thirty-five years of age, who had been subjected to oöphorectomy. In one instance the effect of the operation was damaging, the voice became harsh, especially in the high notes, and unfitted her for singing. In another case, that of a mezzo-soprano, four low tones were added to the compass of the voice without any change in its strength or timbre. In the remaining cases, either there were no changes in the voice, or whatever alterations there were could not with certainty be attributed to the operation. Castex believes that the chance of damage to the voice from oöphorectomy is too small to count as a contra-indication to the operation. After hysterectomy, no observable alterations of the voice take place.

The study (17) of the relations between the larynx and sexual apparatus opens up a new field of research of pleasing landscape and almost boundless horizon, which bids to its exploration not only the physiologist and pathologist, but also the biologist.

Above all, it brings us face to face with a serious problem of life, an interesting enigma whose significance it will be the task of the future to divine.

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SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

48th Ordinary Meeting, March 3, 1899.

F. DE HAVILLAND HALL, M.D., *President, in the chair.*

Case of Laryngeal Paralysis Secondary to Stricture of the Oesophagus. Shown by Mr. BOWLEY.

Man aged fifty. Suffers from difficulty in swallowing and loss of voice. His symptoms began twelve months ago, when he had a very slight difficulty and pain at about the middle of the sternum on swallowing. Six months ago he suddenly lost his voice, and has had partial aphonia ever since. Swallowing has gradually become more difficult, and for three months he has been unable to take anything more solid than soaked bread.

Present Condition.—On the left side of the neck there is some fulness, and a mass of hard, matted lymphatic glands can be felt, reaching from the clavicle upwards to the level of the cricoid cartilage. On passing an œsophageal bougie a stricture can be felt at a distance of 7 inches from the teeth. Laryngoscopical examination shows that the larynx is natural, except that the left vocal cord is fixed in a position midway between abduction and adduction. In front of the processus vocalis the free edge of the left cord is concave. Nothing abnormal in the chest. Pulses equal. Pupils equal.

I have seen paralysis of the vocal cords in cases of œsophageal stricture on several occasions, the left cord being more often involved. I think it may be compressed either by the original growth or by enlarged and infiltrated glands. In the present case the concavity of the cord is very marked, a condition probably due to paralysis of the internal tensor.

Dr. CLIFFORD BEALE described a case he had just seen which was almost similar, but at a somewhat more advanced stage. The patient had been for some time under observation, the first evidence of mischief being obstruction of the larynx. On the left side of the trachea there was a swelling which was acutely tender. Under large doses of iodide of potassium the swelling had considerably diminished, and the pain absolutely disappeared. The larynx showed complete abductor paralysis, the cords lying in the cadaveric

position. When first seen she spoke with a clear voice. As the patient was subject to adductor spasm, tracheotomy had to be performed. It was now possible to examine freely, and all down the neck on the left side of the œsophagus a hard infiltration could be felt. Under chloroform the top of the growth could be made out with the finger. There was no evidence to indicate how long the paralysis of the cords had lasted, as the voice had not been affected, and up to the time he had first seen her there had been sufficient breathing space.

Sir FELIX SEMON would not undertake to say off-hand whether, in his experience of œsophageal stenosis, the right or the left vocal cord was more frequently affected, but he could recall several cases of œsophageal obstruction in which the right vocal cord had been paralyzed. It was possible that the latter cases made a greater impression on their minds, since in cases of left-sided paralysis an aneurism was more often the cause than œsophageal mischief. With reference to the flaccid and excavated appearance of the left vocal cord, and the question whether that was due to participation on the part of the superior laryngeal nerve, or whether implication of the recurrent was alone sufficient to explain it, he believed that the latter fully sufficed, because, if the internal tensor became paralyzed, the result, in his experience, was the excavated and flaccid appearance of the vocal cord exhibited by Mr. Bowlby's patient. It has been recently stated that if the recurrent laryngeal nerve was completely paralyzed, the crico-thyroid muscle would, being no longer opposed by any antagonistic muscle, from mere inactivity undergo degeneration and atrophy. This statement, he was convinced, was purely theoretical. He need only point to cases of abductor paralysis in tabes, such as shown in this Society, in which the affection had lasted for ten or more years, and yet the patient had been able not only to speak with a perfectly normal voice, but even to sing. If that period was not sufficient to produce paralysis of the crico-thyroid from inactivity, he wondered what time was required for the purpose. Besides, Dr. Friedrich, of Leipzig, and Dr. Herzfeld, of Berlin, had found on post-mortem examination the crico-thyroid perfectly normal in cases of complete and long-standing recurrent paralysis. He would suggest that every opportunity be seized in such cases of making a post-mortem examination and instituting a thorough macro- and microscopic examination of the crico-thyroid, and publishing the results of the observation.

Dr. DE HAVILLAND HALL could see no anatomical reason why, in cases of malignant disease of the œsophagus, one vocal cord should

be more frequently affected than the other. He thought he had himself seen more cases of right than of left sided paralysis, but, as Sir Felix Semon had remarked, right-sided paralysis probably made more impression on their minds than left-sided, which was so comparatively common that they were not surprised to find it, whereas a case of right-sided paralysis put them on the *qui vive* to ascertain its cause. As for the place of involvement of the nerve, he found that on pressing the enlarged gland of the neck the man had a distinct attack of spasm of the glottis, and there was marked stridor. This, he thought, the left cord being paralyzed, must have been through the afferent fibres and down the vagus on the right side.

Case of Lupus of Nose. Shown by Dr. EDWARD LAW.

Female, aged thirty-three, came to the hospital three years ago suffering from lupus of the skin of the left ala nasi, with a few granulations inside the nasal orifice. Perfect cicatrization took place after scraping, etc., and no recurrence was noticed for eighteen months, when granulations appeared on the floor of the left nasal fossa and extended up to the middle turbinal, with nodules on the posterior margin of the septum. Curetting and applications of lactic acid brought about a satisfactory result, and the patient was discharged apparently cured. A few weeks ago, a posterior rhinoscopic examination revealed a small swelling in the soft palate, immediately behind the posterior margin of the septum.

Case of Nasal Polypi Complicated by Well-marked Bilateral Septal Obstruction. Shown by Dr. EDWARD LAW.

Patient, aged thirty-one, came under observation at the end of last year on account of difficulty in nasal respiration, one or other side being constantly blocked. There is a history of the nose having been broken whilst playing football sixteen years ago, and of a similar accident five years ago, "when there was some difficulty in keeping the three pieces in their proper position."

Examination showed an irregularly deflected septum, with well-marked bilateral prominences at the lower margin of the nasal bones, and an unusually large, long, and thick spur running parallel to, and in union with, the inferior turbinate on the left side. The whole septum is much thickened, and there are polypi in each nasal cavity behind the obstructions. At first it was impossible to obtain a posterior rhinoscopic image on account of the great irritability which accompanied the naso-pharyngeal

catarrh. This disappeared after the discontinuance of tobacco, malt liquors, and attention to diet, etc. The posterior extremities of both inferior turbinals are somewhat hypertrophied. The case is interesting, and the opinion of members is requested as to the methods and extent of operative interference.

A discussion ensued on operative interference in cases of stenosis of the nose in general.

Sir FELIX SEMON said he had recently had a series of cases in which the tendency to adhesion, which was so marked a peculiarity after operations in the nose, had been even more prominent than usual. In one case in which he had removed, by sawing and cutting, a projecting part of the turbinate bones and the septum, every means he had tried to keep the passage open had failed. The patient had been unable to bear plugging with gauze or wadding; neither could she stand gutta-percha, celluloid, or silver. Ivory was the only thing she could bear. He had tried every astringent and sedative he knew of, and had employed cocaine so as to contract the mucous membrane. Nothing availed; everything irritated and gave pain; and each time the plugging was left off adhesions formed. He had sent the patient to her home, and there the parts grew together again, so that he had anew to operate. She was now wearing an ivory plug. When it was taken out she breathed as freely through one nostril as the other, but, although there was a distance of 2 mm. between them, the opposite surfaces touched and united when the plug was left out for six hours. He would like to know if anyone could suggest what to do in such a case. At present he was merely applying pure paroleine, and there was no pain now.

Dr. WILLIAM HILL said that within the last few months he had operated on a case seven times. First he had cut away a piece of the turbinal and a small bit of septum. On removal of the plug, a clot or a scab would form and a bridge appear. In this case he had cut with scissors the turbinal on the outer side, and destroyed the bridge quite six times. He had used the soft rubber plug, which he believed was least irritating, though not very aseptic, and it had been borne well. He believed that if they simply went on persistently with a suitable plug, healing must in course of time occur.

Dr. WAGGETT said he had had a similar case that gave great trouble. He had come to the conclusion that the prolonged use of plugs after operation was disadvantageous, in that it caused a local anæmia of the injured parts and prevented healing. The parts could be kept asunder without pressure by inserting a sheet

(not a plug) of celluloid, which took up little room and left quite enough space for the escape of discharge from the surfaces of the ulcers. The celluloid should be removed daily, and the nose syringed.

Mr. SPENCER said it was the continuance of the local treatment that was the difficulty, owing to the pain caused, especially in the hyperæsthetic case. In Dr. Law's case there were two very thick ridges of half cartilage, half bone, close down upon the floor of the nose. To treat such a case by Bosworth's saw on either side would be exceedingly difficult, the nose was so narrow. Every case should be treated, if possible, under cocaine; but there was a more complete method of treatment, namely, to remove, under an anæsthetic, the whole of the inferior turbinal, either by knife or scissors, and at the same time, if the nose were excessively narrow, to dilate it till it was thoroughly free. Dr. Hall had sent a young man to him in whom there was marked hyperæsthesia. The anterior part of the inferior turbinal had been removed by a practitioner, but an adhesion to the septum had formed. A plug had been put in, but the pain prevented its retention. Under a general anæsthetic, the whole inferior turbinal bone was removed, the nose was plugged for a day, then douched, and under this treatment had healed, leaving a free passage.

Dr. SCANES SPICER said he felt sure Dr. Law's case was one of those in which, having obtained permission to remove whatever was necessary to radically clear the nasal obstruction, a general anæsthetic should be given and the thing done thoroughly. It might be necessary to remove the spurs on both sides and to tackle the middle (for the case was complicated with polypi and purulent sinusitis) as well as the inferior turbinates. That, of course, would mean ten days or a fortnight's confinement to hospital; but such a case as this was best and quickest treated in this radical fashion. Referring to Sir F. Semon's case, of late years he had had no troublesome adhesions after nasal operations until last December, when, through not continuing long enough personal attention to the nose, he had seen two. One patient, having been in London for ten days, was allowed to return home too soon after operation; a "cold" supervened, a bridge formed, and she had to return to London, and it took over a fortnight to conquer the bridge. In the second case exactly the same thing happened. He had worked at this case for two months, and the patient was not yet out of the wood. In obstinate and irritable cases he believed the proper plan was to give the patient a complete rest and allow the bridge to consolidate, simply lubricate with soothing unguents, and get all

inflammation down; then, later, attack the non-inflamed bridge. In such a case as Sir Felix Semon had described, a temporary policy of masterly inactivity, such as recommended, would in the end prove most efficient and shortest. It was possible that in these cases freer removal of adjacent parts should have been done, and would have prevented this bridging. For his own part, the speaker felt his errors had been invariably in the direction of removing too little rather than too much.

Dr. DE HAVILLAND HALL said that nothing short of the heroic measures taken in the case instanced by Mr. Spencer would have succeeded, the condition being one of long adhesion in narrow nostrils. The result was exceedingly satisfactory.

Dr. DONELAN said he had had much trouble with an adhesion associated with a good deal of hyperæsthesia. There was eczema of the auditory meatus, for which he was using Burrow's solution of acetate of lead and alum. He at last tried this in the nose, separating the adherent surfaces with lint soaked in it. The hyperæsthesia was at once relieved, and the adhesion was soon overcome. He further referred to the occasional ill effects of turbinectomy, and mentioned a case in which necrosis of the upper jaw and facial paralysis had followed operation.

Dr. DUNDAS GRANT said that he had performed inferior turbinectomy for the purpose of getting rid of an adhesion with satisfactory result; but in one case, where there was no previous adhesion, plugging after complete removal of the inferior turbinate body was followed by such inflammatory reaction that an adhesion formed. In one case of adhesion between the left turbinate and the septum in a medical man he had removed the anterior extremity of the turbinate; but that did not prove sufficient. The patient then asked him simply to remove the band, and he would try to keep it open by means of a nasal bougie made of the silk-wove material used in urethral bougies. This the patient cut short, and went about with it *in situ* all day. He was now cured. It was sometimes a question whether adhesions required to be interfered with. In a case in which the nasal obstruction was so marked that he could only remove the polypi at the posterior part after sawing away a spur on the septum, an adhesion formed which seemed to cause no discomfort, and the relief from the partial operation was so great that he was exercising a "masterly inactivity." Use of cocaine had two effects, anæsthetization and contraction. But a spray of 4 per cent. of antipyrin would bring about contraction of longer duration. It was, however, rather irritating, and he preceded it by a spray of 5 per cent. of eucaine.

With that combination an enormous amount of comfort was afforded without risk. In reply to a remark by Mr. Atwood Thorne, that bridges did not seem to him to form unless both terminal and spur were operated on at one time, and his suggestion that they should be dealt with at different times, Dr. Grant replied that there had been cases of adhesion which had arisen without any operative interference at all.

Dr. EDWARD LAW, in replying to the discussion, said that unless the adhesion mentioned by Sir Felix Semon was a very broad one, he should certainly let it heal, and not tamper with it for six or twelve months. One had occasionally to break down adhesions in order to pass the Eustachian catheter, and he had been surprised at the ease with which the surfaces could be kept apart compared with the adhesive tendency manifested after any operations in the nose. This freedom from adhesion in the case of the division of bridges of long duration was probably accounted for by the adjacent mucous membrane being in a more or less normal condition.

Case of Complete Adhesion of the Soft Palate of the Posterior Wall of the Pharynx. Shown by Dr. DE HAVILLAND HALL.

The patient, a married woman of thirty-three, was quite unaware of her condition until informed of it, but she noticed that she could not blow her nose like other people. She had never suffered from sore throat or skin affection. The left central incisor, upper jaw, is notched and pegged. Eyes not affected. Patient had one child twelve years ago, and has had no miscarriage. She is an only child, and states that her mother had miscarriages. The case is clearly one of inherited syphilis.

Foreign Body impacted in the Naso-pharynx for Four Years. Shown by Dr. D. R. PATERSON.

This was a metal regulator for rubber tubing frequently used with infants' feeding-bottles. It was removed from a child aged six years, who came with the history of otorrhœa of the left side and fœtid discharge from the left nostril. There was inability to breathe freely through the nostrils, and something could be distinguished in the posterior nares on looking through the left nostril. Under an anæsthetic a hard mass was felt above the soft palate, fixed immediately behind the posterior choanæ, and on removal was found to be the foreign body thickly coated with phosphates. A history was obtained that when the child was fifteen months old, and was playing with a regulator, it suddenly

showed difficulty of breathing, which was relieved by suspending with the head downwards, though from that time the nasal breathing became obstructed and the child suffered in health. At various times bougies were passed by different medical men into the œsophagus with a view of disabusing the parent of the notion that there was a foreign body in the throat, and it was for relief of the aural and nasal trouble that advice was lately sought.

Mr. PARKER related what might be called a surgical freak. A boy had come to him complaining of obstruction of the nose. By the aid of the posterior mirror he saw a large gray mass in the posterior nasal space, but, unable to determine what it was by inspection, he had put his finger up. This did not reveal the nature of the body; but just then the boy gave a great heave, and from the back of his nose came a piece of drainage-tube, about 2 inches long and half an inch in diameter. The boy had had an abscess in his neck two years previously, in connection with which the drainage-tube had been used.

Case of Laryngeal Vertigo.

Mr. ATWOOD THORNE showed a man, aged fifty-one, who came to Dr. William Hill at St. Mary's Hospital, on January 5, 1899, complaining that "whenever he had a fit of coughing he felt giddy and lurched towards his right front." He had been subject to paroxysms of coughing on and off for two years, but the condition has been getting worse lately. He has never fallen, but has to catch hold of something to prevent his doing so.

He is slightly deaf, and for the past two months has had noises "like heavy traffic" in his head.

He has polypoid hypertrophy of both middle turbinates, some lymphoid hypertrophy at the base of the tongue, and some slight swelling in the interarytenoid space. There is some pulmonary emphysema. No other cause of vertigo being ascertained, the case is brought forward as one of laryngeal vertigo.

Fifteen minims of dilute hydrobromic acid have been given three times a day, and the man describes himself as rather better.

While at the hospital the man has never had an attack, forced coughing not having affected him in any way.

Dr. LAW thought it was possibly a case of *aural* vertigo. The patient complained of deafness and tinnitus; the tympanic membranes were retracted. He thought that catheterization would reveal the Eustachian tubes to be over-patent. The man had probably for some time given his ear repeated concussions either by coughing or blowing his nose. He should be recommended not

to blow his nose violently, and some remedies should be given to relieve his cough.

Dr. HILL said the man had been under him for aural treatment. He at first assumed the case to be one of aural vertigo, but finding the patient had signs of exhaustion sinusitis before one of the attacks, he was inclined to think it was a case of *nasal* vertigo. Afterwards it was found that the attack *always* came on in connection with some laryngeal irritation and cough, and narrowed down in that way, he believed it was really an instance of laryngeal vertigo.

Dr. DUNDAS GRANT said although the theory of aural vertigo had been propounded by some authors, he was indisposed to accept it, if only because of the extreme rarity with which vertigo followed inflation of the middle ear, a result he himself had never seen. In a case of very definite laryngeal vertigo, or rather syncope, as it was better called, there was a strong gouty tendency, after treatment for which he believed the vertigo disappeared.

Dr. STCLAIR THOMSON suggested that it might be *cardiac* syncope. The patient's pulse was very small and quick, and slightly irregular. The man himself had said that when he bent forward to lace his boots he felt inclined to fall on his nose.

Case of Tuberculous Interarytenoid Growth. Shown by Mr. J. S. LUCAS for Mr. Lake.

The patient, a female aged thirty-three, has been hoarse for four months. For the last eight weeks she has been under treatment, and the throat has been painted with formalin in 3 per cent. solution. She has improved greatly, but still complains of pain if the throat is not painted daily. The swellings in the interarytenoid region are rather unusual, being very irregular.

Two Cases of Extra-laryngeal Cyst. Mr. WAGGETT showed two young men exhibiting cystic formations in the thyro-hyoid region.

In the one case a cyst the size of a hazel-nut was found lying upon the thyro-hyoid membrane on the left side. In the second case a tumour, partly cystic, and about the size of a walnut, was present on the left side over the thyro-hyoid membrane and extending down over the corresponding ala of the thyroid cartilage. This was probably a cyst developed from the pyramidal lobe of the thyroid gland.

Mr. DE SANTI thought the first case a bursal cyst, extra-laryngeal and unconnected with the thyroid. It might be necessary to make a deep dissection, but he thought Dr. Waggett could cut down and remove it. He could not get "blowing out."

Dr. STCLAIR THOMSON asked whether the possibility of so-called pneumatocele had been considered, as the tumour could be distended by blowing with closed lips.

Mr. WAGGETT had at first considered the second case to be one of pneumatocele. He had, however, convinced himself that the slight enlargement which occurred on coughing was due to venous engorgement. On external pressure a slight prominence occurred in the region of the left aryepiglottic fold, but it was quite impossible to cause any diminution in the size of the tumour by prolonged manipulation. He felt certain that the cyst in no way communicated with the lumen of the air-passages. Mr. Waggett agreed with Mr. de Santi in thinking the first case to be one of bursal cyst. As it caused no inconvenience, he did not propose to operate.

Case of Multiple Laryngeal Papillomata in a Child aged three and a half years, completely removed in three sittings by the Endolaryngeal Method under combined General Anæsthesia and Local Cocainization, and without Tracheotomy. Result: Full Restoration of Voice and Normal Breathing. Dr. SCANES SPICER showed this case.

Boy, aged three and a half years, lost his voice after a cold at the age of seven months, and has always spoken since in a breathy whisper; there is no sound in his laugh or cough, and his breathing is noisy, especially at night. He is highly intelligent, but shy, and can say anything in his peculiar whisper. His tonsils are enlarged, and there is post-nasal adenoid hyperplasia. Laryngoscopic examination not practicable without an anæsthetic.

February 1.—Dr. Fred Hewitt administered gas, ether, and chloroform, and the patient was placed in the intubation position in the nurse's lap. The condition was: Large median, cauliflower mass, the whole length of the glottis, flapping freely in the air-current, and attached somewhere on the right side; the right cord embedded in multiple pale warty growths; the left cord perfectly healthy and mobile. The median mass only was removed by antero-posterior cutting forceps, as the larynx was irritable, and preparations had not been made to tackle the growths on that occasion.

February 8.—No return of voice, but breathing much quieter, especially at night. The anæsthetic was given again as before, and the larynx was sponged with a few drops of 20 per cent. cocaine solution, and well mopped out. This was done two or three times, until the larynx was tolerant of the probe and forceps. Eight or ten large clusters of growths were then removed, blood

being mopped away at times. After this the tonsils and adenoids were removed.

February 16.—The patient still speaks in a whisper, but there is sound in the cough and laugh. The anæsthetic given again, and cocainization as before. Small growth removed, and larynx seen to be absolutely free. Recovering from the anæsthetic, a curious croupy inspiration was observed, which was especially marked when anyone was in the room, but subsided when the patient was left alone. The sound of the voice did not return for some days, and only gradually. Apparently a determined effort was requisite to produce the voice, and it had a raucous, monotonous character, devoid of inflexion.

This case is interesting as a further proof of the practicability of removing laryngeal growths in young children by the method described by the writer some years ago. He then had had four such cases, later one more, and, until the present one, no case of the kind for five years. This case has been far more rapid than any of the others, and the operator has been much indebted to Dr. Hewitt for many suggestions in connection with the anæsthetic and position. It is also a point of much interest that the voice did not return at once, though there was no mechanical impediment to adduction. This might have been due to slight bruising during operation, or it might have been a result of the threefold co-ordination of breath, articulation, and adduction never having been established at the time when the child lost its power of adduction.

Sir FELIX SEMON thought the result most satisfactory, and one upon which Dr. Spicer ought to be congratulated. He had himself seen the child before the operation. It was then in a very bad condition, perfectly aphonic, and with loud laryngeal stridor, and a suggestion of tracheotomy had been made.

Dr. WILLIAM HILL said Dr. Spicer's results put the question of treatment of papillomata in children of three or four years of age on quite a new basis. Instead of putting off operation till the patient was seven or eight, Dr. Spicer cleared out the larynx at any age. He had himself seen two cases in which the finger-nail was used at his suggestion to remove some of the growths.

Dr. SCANES SPICER said the growths were removed under the guidance of the mirror. The longest time occupied at a sitting in his earlier cases was two hours. There was a good deal of trouble in connection with the chloroform. Very little cocaine solution was used. He followed up the spray immediately with a dry cotton-wool mop, giving it a brisk turn round, so that no cocaine

was swallowed, and a local anæsthetization was thus procured, which supplemented the chloroform, and allowed the field to be operated on without exciting reflex contraction and closure. In the present case Dr. Frederic Hewitt had given the chloroform, and had much facilitated the operations.

Case of Pachydermia of the Larynx, probably due to Chronic Rhinitis. Shown by Dr. DUNDAS GRANT.

Man, aged twenty-one, was first seen by Dr. Grant on February 25, when he complained of huskiness of the voice which had persisted for two months subsequent to a cold, also frequent coughing and hawking. He attributed the condition to an attack of diphtheria nine years before. It appeared that on at least two occasions such hoarseness had followed colds, and had lasted for several months. On examination of the larynx, there was found a dry, congestive condition of the vocal cords, with a pale irregular fringe on both vocal processes. The thickness on the vocal processes was irregular, and the processes appeared on phonation to dovetail into each other.

In the nose there was hypertrophy of the inferior turbinated bodies, and increased muco-purulent secretion. There was no history of specific disease nor of excessive use of the voice. The patient is otherwise in excellent health, and the condition, if not absolutely typical of pachydermia, seems to approximate to it extremely closely. The treatment proposed is the removal of the hypertrophied portions of the inferior turbinated body, and application of the alcoholic solution of salicylic acid to the larynx.

Dr. DE HAVILLAND HALL doubted whether the case could be called one of pachydermia. It did not extend far enough along the processus vocalis. He had seen pachydermia in alcoholics who were also voice users. Sir Felix Semon having remarked that he had seen it most frequently in clergymen, Dr. de Havilland Hall further remarked that one of his cases was that of a clergyman in whom lipomata on the nape of the neck had led him to suspect alcoholism.

Dr. DUNDAS GRANT thought his case approximated closely to pachydermia, though not of the typical shirt-button type, and was a hyperplasia of the epithelial tissue.

Case of Papilloma of the Larynx previously shown in an Elderly Man. Complete Removal. Shown by Dr. DUNDAS GRANT.

Man, aged sixty, came under my care on October 28, on account of hoarseness and loss of voice of a year's duration. The growth in this case was removed by means of Grant's forceps, and on

microscopical examination presented the characteristics of a soft papilloma. The stump underwent some regrowth, but the alcoholic solution of salicylic acid was applied and the forceps again used, leaving only a slight roughness on the site of the growth. This was treated with local application of salicylic acid two or three times a week, and at present the voice has reached its normal condition; the edge of the cord is nearly smooth, though its colour is still abnormally red.

Case of Multiple Papillomata. Shown by Dr. DUNDAS GRANT.

A woman, aged fifty-nine, came under my care on February 23, on account of hoarseness and loss of voice of two years' duration. On the edge and upper surface of the right vocal cord was a sessile mass of a soft, warty appearance, which was, from its mobility, apparently of soft consistency, the papillation of the surface being particularly marked. This extended to the anterior commissure, where there was a roundish outgrowth. The left vocal cord was reddish and irregular at its edges, but was partially concealed by the growth from the other side. The movement of both sides of the larynx appeared to be normal, the voice was almost lost, and was more whispering than hoarse. By means of Grant's forceps, a large portion of the growth was at once removed, but no particular effect on the voice was produced. Three days later further removal was effected by means of the same instrument, but the growth at the anterior commissure could not be reached, probably on account of the length of the beak of the forceps employed. This was, however, removed completely by means of MacNeill Whistler's forceps. On March 1 the larynx was free from any large mass of growth. There still remained a slight fringe on the right cord, and there was seen below the middle of the left one a pale, smooth, sessile growth of very small dimensions. A 5 per cent. solution of salicylic acid was then applied between the cords. At this date the voice seemed as toneless as ever, but with a little insistence the patient was induced to utter hoarse but fairly loud sounds. It seemed as if the habit of whispering had become established, and that even after removal of the new growth in the larynx, this would have to be overcome by practice.

Case of Large Gumma in Posterior Pharyngeal Wall. Shown by Mr. ARTHUR CHEATLE.

A woman, aged thirty-seven, came to the Royal Ear Hospital ten days ago, complaining of difficulty of swallowing, and "a lump" in her throat. A smooth swelling, an inch and a half in breadth,

situated slightly to the left of the middle line, reached from high up in the naso-pharynx downwards to the level of the top of the larynx. It was soft and fluctuating in the centre, hard at the edges, where it faded into surrounding parts. There was a history of numerous miscarriages and some stillbirths. Resolution was taking place under iodide of potassium and perchloride of mercury.

Case of Fixation of Left Vocal Cord with Fibrillar Movements.
Shown by Mr. W. G. SPENCER.

The patient, aged sixty-two, served in the navy, but having suffered from repeated attacks of rheumatism, he was invalided. His voice had not been good for years, and he has had attacks of aphonia. During the last four months he has been very hoarse or completely aphonic. The left vocal cord is fixed as regards voluntary movements. The arytenoid cartilage is fixed and drawn forwards, forming a ridge. The cord itself is unaltered, but continually exhibits fibrillar movements. Some congestion of the larynx has become less under treatment.

Dr. HERBERT TILLEY suggested that the curious appearance presented was due to tilting and fixation of the arytenoid cartilage, and that there might be some trouble (possibly rheumatic) in the crico-arytenoid joint. The twitching movements of the tissues covering the fixed arytenoid reminded him of a similar condition seen in a case of syringomyelia, with palatal and left abductor laryngeal paralysis, shown to the Society by Dr. Horne (June 9, 1897).

Sir FELIX SEMON referred to a former paper of his on the subject, which described a case in which there was also complete tilting of the arytenoid cartilage, with fixation of the cord and the formation of a ridge in consequence of the drawing of the parts. In that case there appeared to be congenital ankylosis and luxation of the crico-arytenoid joint.

Case of Recurrent Papillomata of Larynx. Shown by Mr. C. A. PARKER.

The patient, a man aged twenty-five, was first seen three years ago, when he had been hoarse for four months. The larynx was then found to be almost entirely filled with papillomatous growths. The growths were removed, with great improvement to the voice. At intervals of a few months the patient has returned with recurrence of the growths, which have been removed on about twelve occasions. The patient has not been seen until now for fourteen months. The voice is impaired, and he has pricking pains on swallowing. The

whole of the anterior part of the larynx seems to be filled up with growths; the posterior wall alone is free.

A Skiagram of a Foreign Body in the Œsophagus. Mr. DE SANTI showed a skiagram of a halfpenny tightly wedged in the œsophagus, opposite the level of the top of the sternum.

The patient was a child of two years eleven months, who had swallowed a halfpenny eleven days before Mr. de Santi saw him.

The mother of the child stated that she had carefully examined the stools passed, but had seen no halfpenny. Beyond having occasional attacks of vomiting, there had been no symptoms.

When brought to Mr. de Santi, the mother stated the child complained of pain in the right iliac fossa. On examination, the child cried on that locality being pressed.

Mr. de Santi ordered the air-passages to be skiagraphed. The halfpenny was then clearly seen in the œsophagus. Under chloroform the top of the coin was with difficulty felt with the tip of the index-finger. It was extracted by means of the coin-catcher, although tightly wedged.

The child made an uninterrupted recovery. The interest of the case lay: (1) in the length of time the coin had remained impacted in the œsophagus, *i.e.*, twelve days; (2) the absence of any localizing symptoms, such as pain, dysphagia, or dyspnoea: (3) the presence of pain around the cæcum, suggesting lodgment of the coin in that neighbourhood; (4) the absence of any inflammation or ulceration in the neck where the coin was wedged.

Abstracts.

DIPHTHERIA, Etc.

Richmond and Salter.—*The Ætiological Significance of the Diphtheria Bacillus and its Variants.* "Guy's Hospital Reports, 1896" (just published).

In 114 cases of diphtheria, of all degrees of severity, the authors have analyzed the morphological variety of bacillus present, the degree of virulence, and the quantitative toxicity.

They have come to the following conclusions, amongst others, that:

1. The virulence of a diphtheria bacillus for guinea-pigs bears no relation to the severity or malignancy of the disease in the patient from which the organism was derived.

2. No relation exists between the length of the bacillus and the severity of the disease in man. (They are thus entirely opposed to Martin, 1890, and Washbourn, Goodall, and Card, 1894.)

3. The so-called pseudo-diphtheria bacillus can only be regarded as a mild and attenuated, but still pathogenic variety of the true causal agent of diphtheria.

4. Diphtheria has as its immediate cause the Klebs-Löffler bacillus and its variants, including all the so-called non-pathogenic forms.

5. For the production of the malady in the individual, and especially for the occurrence of the disease in epidemic form, several other factors must be considered. These are climatic, seasonal, etc., and the authors wish to adopt provisionally the old term "genius epidemicus."

For details of the mode of investigation, and for other valuable points, the reader is referred to the original paper, which is most excellent and instructive.

Atwood Thorne.

Smith, Captain Frederick (Royal Army Medical Corps). — *Diphtheria Bacilli in the Urine*. "Lancet," November 19, 1898.

A guinea-pig which had been some days before injected with live broth culture of diphtheria bacilli was noticed to be passing hæmorrhagic urine, and the idea at once suggested itself, If blood, why not bacilli? The animal was killed and opened aseptically, and the bladder was exposed. The viscus was touched with a heated glass rod, and pierced at the sterilized spot by a glass pipette. Bloody urine thus obtained in the pipette was run over the surface of coagulated serum in a Petrie dish. After incubation a copious growth of typical Klebs-Löffler bacilli was the result.

A second guinea-pig was injected with a living culture. The animal was killed five hours later, and the urine was obtained aseptically in the manner above detailed. The urine was normal in appearance, but a plentiful growth of diphtheria bacilli on serum was obtained.

The result in the case of the second guinea-pig is somewhat surprising considering the short time which elapsed between injection and death. These facts go to prove that, in the guinea-pig at any rate, bacilli in the blood-stream are some of them eliminated alive through the kidneys. It does not follow, of course, that diphtheria bacilli are passed alive through the kidney of a human being suffering from diphtherial disease. For all that, the results obtained suggest that, at least in hæmorrhagic diphtheria, bacilli will be found in the urine. It may further be anticipated that in all cases in which the bacillus (whether in small or large numbers) escapes into the blood-stream it will be present in the urine. It may be predicted even that, in order to prove the presence of the bacillus in the blood, search for it will be made in the urine in future. The practical bearing of this question is important from the public health point of view. If the urine of diphtheria patients is liable to contain the bacillus, the urine and fæces (for the solid excreta are almost invariably mixed with more or less urine) will have to be disinfected just as rigorously as those of patients suffering from enteric fever. Those hygienists who have so strenuously maintained that there is a connection between general insanitation, middens, etc., and diphtheria will have a new fact to strengthen their argument.

StClair Thomson.

MOUTH, Etc.

Walsham, Hugh.—*Latent Tuberculosis of the Tonsil.* "Lancet," June 18, 1898.

Out of the thirty-four consecutive post-mortems, the author found the tonsils to be more or less tuberculous in twenty. Presumably this conclusion was based on the discovery of giant cells, as there is no mention of tubercle bacilli being found. It is also to be concluded that all the post-mortems were on patients who had died of pulmonary tuberculosis. Microscopical examination of tonsils and adenoid vegetations removed from living subjects proved entirely negative. Reference is made to the well-known observations of Lermoyez.

StClair Thomson.

NOSE.

Bereus.—*The Rebuilding of a Nose without the Use of an Artificial Bridge.* "The Laryngoscope," March, 1899.

The author having treated a number of nasal deformities due to injury, almost all recent, has been impressed with the ease and the subsequent slight shock and pain with which the bones are reset. The lack of pain is probably due to lack of muscular contraction.

The author describes and gives photographs of a case due to severe injury in early childhood, treated by himself. The nasal bones were pushed apart and flattened, producing an almost flat and very broad bridge. The alæ were broad and prominent. The columna occluded the right naris, while the body of the septum was deflected to the left, and its upper half was adherent to the wall of the vestibule.

Under ether anæsthesia this adhesion was divided. With a modified Adam's forceps the nasal bones were in turn grasped and broken from their attachment. The right nasal bone not having broken satisfactorily, was rendered pliable by heavy blows with a bull's hide mallet on a rectangular bar of steel guarded by rubber tubing laid upon it. The nasal processes of the superior maxillæ were broken at the same time. The perpendicular plate of the ethmoid and the rest of the septum, when deflected, and the nasal spine of the superior maxilla, were broken. The nose was then quite pliable. One of the author's perforated cork splints was then put in each nostril. A plaster cast of the normal nose was bandaged firmly as an external splint. There was very slight reaction and no complaint of pain after operation. The plaster cast was removed in three days, and a Fox glass clip, with the ends longer and broader than usual, was substituted. This was mounted later with plain glasses, and worn for three weeks.

R. M. Fenn.

Kenny, A. L.—*Golovine's Osteoplastic Operation on the Frontal Sinus.* "The Australian Medical Gazette," January 20, 1899.

This is a description of a successful operation for chronic frontal sinus suppuration. The peculiarities of the operation were the turning down of a hinged flap consisting of the anterior wall of the sinus and the overlying periosteum only, and its subsequent replacement, and the use, instead of a trephine or chisel, of an instrument modified from a circular metal-cutter.

Kenny claims for this instrument the following advantages: 1. The bone incision is as narrow as possible, and there is a minimum loss of substance. 2. It is more effective and more manageable on a curving surface than is a trephine. 3. The length of the cutting arm can be changed in a moment, and by taking different centres and different lengths of arm, a regular incision of parabolic shape or half curve, with nearly straight sides, can readily be made. 4. It acts more quickly than a trephine.

Atwood Thorne.

Lack, H. L.—*Fibrinous or Membranous Rhinitis, and its relation to Diphtheria.* "Proc. Royal Med. Chir. Soc., Lond.," October 25, 1898.

Fibrinous rhinitis, first described by Schuller in 1871, is defined as a subacute or chronic affection of the nose, characterized by a fibrinous or membranous exudation on the nasal mucous membrane. The great interest of the affection lies in its connection with diphtheria, the older observers considering the diseases quite distinct, while the more recent observers, relying on the results of bacteriological examination, claim that fibrinous rhinitis is merely a mild manifestation of diphtheria. Cases of the disease are shown to be very common, forming no less than $2\frac{1}{2}$ per cent. of all the children attending the author's hospital practice. A brief analysis is then given of the symptoms presented by thirty-six cases of the affection. The disease is shown to be essentially one of children, and to occur most frequently in the autumn months.

The chief symptoms are seen to be purely local, such as nasal obstruction and discharge, excoriation of the nostrils and upper lip, occasional epistaxis, etc.; sometimes sore throat is seen, presenting peculiar characteristics, which are described.

The affection is very chronic, lasting on an average six to eight weeks or more.

General symptoms are seen to be very mild, and sometimes altogether absent. Many cases are not seen until very late in the disease, others probably are often overlooked even by competent observers, and some probably are never seen at all; the children, not being in any way ill, continue to attend school, etc., as usual. There is complete absence of all paralytic sequelæ.

A brief sketch is then given of nasal diphtheria, and special attention is drawn to cases in which a purulent nasal discharge persists often for many weeks after an attack of true faucial diphtheria. The symptoms of the two diseases, fibrinous rhinitis and true nasal diphtheria, are then briefly contrasted.

The results of bacteriological examination, carried out in thirty-three cases, are then reported. The true Klebs-Löffler bacillus is constantly present, generally in pure culture, sometimes mixed with pyogenic cocci, sarcinæ, etc. It is usually of the large variety, and its identity is proved by its morphology, by its growth on various culture media, etc. It is further shown to be of full virulence on animals, to produce virulent toxins, and to be neutralized by antitoxins. Further, it is shown to be capable of living for several months on culture media, and by its vigorous growth to crowd out other organisms if present.

Finally, the surroundings of the patients were examined, all sources of diphtheria sought for, and, as far as possible, all persons with whom the patients came into contact were seen and examined both clinically and bacteriologically. A previous history of diphtheria is found in connection with one case only. The disease is found to be very

infectious, however; often it gives rise to itself (nine cases occurred in four families), and often to mild sore throat, twenty-five instances of which occurred in eleven families. The Klebs-Löffler bacillus was also found in healthy throats in association with these cases. A comparative investigation showing the frequency with which the bacilli were found in healthy noses is then described, and statistics of similar investigations on both healthy noses and throats and on cases of non-diphtheritic sore throat are quoted.

The conclusion is arrived at that fibrinous rhinitis is a mild variety of diphtheria, the difference in the clinical manifestations apparently depending on some differences in the organisms associated with the Klebs-Löffler bacillus. The diagnostic value of the presence of the bacillus in sore throats which do not clinically appear to be diphtheria is also discussed, and is considered to be very slight.

Meyjes, Posthumus (Amsterdam).—(1) *A Case of Inverted Tooth in the Nasal Cavity.*

(2) *A Case of Probable Pneumatocoele of the Frontal Sinus.* "Monatsschrift für Ohrenheilkunde," October, 1898.

See Report of Laryngological and Otological Society of the Netherlands in January number. William Lamb.

LARYNX.

Betti, Ugo Arturo (Genoa).—*The Relations of the Larynx with the Vertebral Column in Man.* "Bollettino," Florence, January, 1899.

The author reviews the statements of various anatomists on this point. Luschka and Hoffman make the larynx correspond with the fourth or fifth cervical vertebra. Symington, from the middle of the body of the fourth to the upper margin of the sixth. Krause, without fixing the level, says it is lower in men than in women. Drobnik, that the lower limit of the larynx is generally at the level of the body of the sixth vertebra. Quain, that the thyroid cartilage corresponds with the fifth cervical vertebra, the cricoid with the sixth. Tagucki (from sixty dissections), that it extends exactly from the upper border of the fifth to the lower border of the seventh vertebra in the male, and that it is a little higher in the female, *i.e.*, between the upper margin of the third intervertebral disc, and that of the body of the seventh vertebra.

Dr. Arturo gives tabular details of his dissections of 100 bodies in which the larynges had been fixed by the insertion of needles, and draws the following conclusions:

The level of the thyroid notch corresponds most frequently with the body of the fourth cervical vertebra, often with that of the fifth and the third intervertebral disc, rarely with the body of the third vertebra or the second or fourth disc.

The level of the crico-thyroid space is most often at that of the seventh vertebra, often at the sixth disc, sometimes at the body of the eighth and seventh, rarely at the fifth disc. These levels are higher in the female and in long necks.

The differences in level of the individual parts of the larynx do not allow any conclusions to be drawn as to its symmetry, or from the

dimensions of the organ, owing to the variability of its position with regard to the vertebral column.

The upper and lower limits of the larynx vary with its relation to the vertebral column, so that as the upper limit is high placed or low, so is the lower.

Position of the Tracheal Rings in the Neck.—The tracheal rings which correspond with the upper margin of the sternum are most often the seventh, ninth, and tenth, often the eighth, rarely the twelfth, very rarely the fifth, sixth, eleventh, thirteenth, and fourteenth, most rarely the fourth.

James Donelan.

Campbell, D. A.—*Timothy-head in Lungs for Five Years.* "Maratine Medical News," January, 1899.

A similar case of a head of timothy entering the larynx to that given on page 268. A young man, while walking through a hay-field, amused himself by biting off the heads of the stalks. One of these slipped into his larynx. He was not affected much immediately, but hæmorrhages developed, occurring off and on for five years. Finally the head was brought up almost unchanged.

Price-Brown.

Clark.—(*Edema of the Larynx.* "The Laryngoscope," February, 1899.

The author refers to the rarity of acute œdema of the larynx, gives in a tabular form Morell Mackenzie's classification of œdema laryngis, and defines contiguous, consecutive, and secondary œdematous laryngitis. He then describes a case of contiguous œdematous laryngitis. A man, aged fifty-five, a barber, after a drive on a cold day, developed pneumonia, which lasted three or four weeks, and since then had suffered from mitral regurgitation. Forty-eight hours before coming under observation his throat became very sore after sleeping in a draught. He had been suffering immediately before from acute sore throat, which, however, had almost subsided. When seen he had marked cyanosis and dyspnoea, etc. Temperature was normal.

The fauces and uvula were found to be intensely inflamed and œdematous. The entire glosso-epiglottic space was filled by one œdematous bleb, greatly interfering with the elevation of the epiglottis. The entire upper surface of the epiglottis and the ary-epiglottic folds were œdematous. The loose connective tissue of the submaxillary space was so infiltrated as to give a double-chin appearance.

The parts were sprayed with a warm pyrozone solution: each bleb was incised, and then the parts sprayed with a 10-grain solution of sulphate of zinc as warm as could be comfortably tolerated. Gargling with hot water and the use of throat tablets were continued. The next day his condition was improved, but the glosso-epiglottic bleb required incision. The day after no œdema could be seen, and rapid recovery followed. Possibly this was a case of secondary œdema due to deficient circulation.

R. M. Fenn.

Hamilton, H. D.—*Voice from a Medical Standpoint.* "Montreal Medical Journal," March, 1899.

The writer draws attention to the accessory parts of the body concerned in voice production, such as the thorax, lungs, resonance chambers of the nose, etc., wisely insisting that, to obtain a perfectly musical voice, the various organs of the body should be in a condition of perfect health. Faulty methods of vocalization and overstrain of the voice are to be avoided.

Price-Brown.

Mills Wesley, speaking upon the same subject, and in the same journal, suggests that, like the face, the voice might also be an indicator of disease. Those who sing should be warned against using the voice during the change of life. Singers in societies often strain the parts, producing congestions and exhaustion of the nervous system, from attempting a range beyond their power. Speaking of the frequency of voice troubles among preachers, and their rarity among actors, he attributes the former to the high-pressure, worry, and irregularity of the preacher's work, and the latter to the regularity of the use of the voice, and control of it by the principles of common-sense.

Price-Brown.

Scheier.—*Tracheal Stenosis*. "Deutsche Praxis," March 15, 1899.

Scheier describes the symptoms of tracheal stenosis as follows ("Drasche's Bibl. Mediz. Wissensch."). The symptoms are referable partly to the stricture of the trachea, and partly to the primary disease occasioning it. The respiratory difficulty is the most important of the subjective symptoms, and its intensity is always in relation to the degree of the contraction. If the latter is only slight, the breath troubles only appear on great bodily exertion, such as ascending stairs. Dangerous attacks of suffocation only come on in very bad cases, but the stenosis may be tolerably severe without occasioning much breath trouble. In many cases the symptoms of stenosis set in acutely without giving warning either to patient or physician; in others slight difficulty in breathing has already existed, and gradually increases to a dangerous degree. Congestion of the mucosa from intercurrent catarrh naturally causes an increase in the dyspnœa. Death has taken place from suffocation occurring suddenly during sleep. Krönlein is of opinion that these acute attacks of suffocation are not due to disturbance of the innervation of the muscles of the larynx referable to the thyroid gland, but rather to the direct pressure of the thyroid against the yielding trachea. This sudden increase of pressure on the part of the thyroid is attributable not only to sudden enlargement of the gland from hæmorrhage taking place in it, but also to forced efforts of breathing due to accumulations of mucus in the larynx, etc., to which sufferers from goitre, with obvious hypertrophy of the sterno-hyoid and thyroid muscles, are liable. These muscles press the enlarged thyroid, over which they lie, tightly against the trachea, obliterating its lumen. The dyspnœa is always associated with both inspiration and expiration. The former is, however, most interfered with; it is prolonged and accompanied by a whistling sound, especially when the case is one of stenosis from thyroid enlargement. Palpation with the tips of the fingers detects a thrill on the narrowed spot, especially if the latter is rather high up in the trachea. Gerhardt has remarked that in tracheal stenosis very little movement of the larynx upwards and downwards is noticeable during breathing, whereas, when the stenosis is in the larynx itself, the excursions are very obvious, excepting in cases of bronchoceles closely adherent to the trachea. Moreover, whilst in most cases of stenosis of the larynx the head is thrown back, in tracheal strictures the patient protrudes the head and depresses the chin. In tracheal cases, also, auscultation detects stridor between the shoulder-blades, over the spinous processes of the upper dorsal vertebræ, whilst in laryngeal stenosis the abnormal sounds are best heard over the middle cervical vertebræ. In very high degrees of stricture the vesicular murmur is quite obscured by the whistling accompaniments.

The voice remains unchanged so long as the larynx itself is unaffected, except that it acquires a peculiar dulness or feebleness. When the stenosis is caused by pressure on the trachea from without, there is usually recurrent paralysis of the vocal cords. The nature and degree of the obstruction can be definitely settled by the aid of the laryngeal mirror, a very small one being inserted into the wound if tracheotomy has been performed. The tolerance of the trachea to the introduction of a foreign object is well exemplified by a case of Moritz Schmidt's, the patient singing vigorously for nineteen months after swallowing a bone, which became fixed about the middle of the trachea in the antero-posterior direction. At each point of contact exuberant granulations sprang up, and it was these that eventually created an obstruction. Nevertheless, the danger attending the impaction of a foreign body is so great that an operation should always be undertaken at once without waiting for an examination.

Pejier.

Schrötter, Hermann (Vienna).—*Laryngological Cases.* "Monatschrift für Ohrenheilkunde," October, 1898.

(1) *Scleroma* (the first case reported from Styria).—A woman of twenty-nine showed slight subcordal swellings, but the rest of the larynx was free. In the trachea, about the level of the fifth ring, was a yellowish, waxy-looking, button-shaped swelling, resting on a red and swollen base. Close by was a scar. The tracheal swelling was removed, and vulcanite dilators introduced. Apparent cure resulted, but after some months the larynx became infiltrated, and the mobility of the cords interfered with.

Schrötter tried unsuccessfully to communicate scleroma to a monkey by submucous injections of pure cultures of the bacillus, and by implanting pieces of diseased tissue in his own arm.

(2) *Tuberculoma* (several cases).—(a) A smooth, flap-like enlargement of false cord as big as a bean. (b) A red swelling the size of a pea, with yellow spots on its surface, just below the anterior commissure.

(3) *Chronic Edema of the Larynx* (two cases).—(a) Affecting especially the right half of the entrance to the larynx. Microscopic examination proved the swelling to be tubercular. (b) A somewhat similar case, due to a melano-sarcoma of the cheek and soft palate.

(4) *Two Cases of extensive Tuberculosis of the Soft Palate and Pharynx*, without any affection of the larynx, but with extensive disease of the lungs. This seems to indicate a local tissue-predisposition.

(5) *Possible Infection of Foot and Mouth Disease*.—A butcher was seized with fever, albuminuria, and gangrenous stomatitis, quickly followed by gangrene of one of the vocal cords and perichondritis, necessitating tracheotomy. Finally the case healed, leaving chronic stenosis of the larynx. Bacteriological examination was negative, but the case presented all the features of an acute infection, and the gangrenous corditis seemed to be primary.

(6) *Cases of Pemphigus of the Throat*.—Intense patchy redness and severe burning pain may enable one to diagnose this before the eruption comes out. In erythema multiforme of the mucous membranes the pain is very much less than in pemphigus.

(7) *In an old Case of Paralysis of the Recurrent Laryngeal* the patient came complaining of dyspnoea. A broad-based swelling was seen springing from the aryteno-epiglottic fold of the paralyzed side and bulging into the entrance of the larynx, covering the posterior

two-thirds of the cords. The swelling was composed of the arytenoid, and especially of the cartilage of Santorini, covered with hypertrophic mucous membrane, and prolapsed as it were into the entrance of the larynx. It was removed with the hot snare, and the diagnosis confirmed.

(8) *Probable Gumma of the Trachea*.—A woman of fifty-eight, who had just recovered from pleurisy, followed by an abscess above the clavicle, came under observation, suffering from ever-increasing dyspnœa and copious purulent spit. No explanation could be found till Professor Schrötter observed deep down in the trachea a firm-looking, irregular swelling springing from the posterior wall and projecting into the lumen to such an extent as to leave only a narrow chink between it and the anterior wall. Suffocation appeared to be imminent; the patient would submit to no operation (tracheotomy and dilatation), but just when death seemed inevitable, gradual improvement took place, and the swelling subsided, leaving a puckered scar on the mucous membrane. The patient was dismissed cured. Two grammes of iodide of sodium were given daily.

(9) *Amyloid Tumour of the Larynx* in a healthy woman of fifty-seven. The region of the arytenoid cartilage and part of the aryepiglottic fold was occupied by a golden-yellow swelling of firm consistence and slightly uneven surface. This was removed, and was found to contain masses of amyloid matter giving the characteristic reaction with iodine. In the deeper parts the membrana propria of the mucous glands was especially affected, and one could see greatly thickened arteries. The change apparently proceeded from periphery to centre, but whether the tissues involved were those of a neoplasm or physiological tissues there is no evidence to prove. Only six cases have been recorded.

(10) *A Case of Air-tumours in the Larynx, caused by the Ventricles of Morgagni being inflated by the Expiratory Air-stream. Aerocele Ventricularis Interna of Virchow*.—There is probably a congenital abnormality in the conformation of the parts, or at least conditions favourable to the production of such abnormality, for the boy's voice is said to have had its peculiar hollow-sounding quality since he had scarlet fever at eight years old. During inspiration the swellings collapse. Considerable pieces of the false cords have been removed with various instruments, and one side of the larynx is practically clear. The case has been extremely troublesome, and the voice remains as yet unimproved. This is due to the fact that a flap-like piece of tissue covers the anterior part of the left vocal cord, and is liable to be sucked into the glottis during inspiration, thus preventing the proper approximation of the cords.

Smith, M. A. B.—*Foreign Body in the Lung for Eight Years.*
 "Maratine Medical News," January, 1899.

This was the case of a young man who accidentally drew the head of a piece of timothy into his larynx, producing symptoms resembling those of tuberculosis, which lasted for eight years. At the time of the accident severe coughing and expectoration of blood occurred.

After this, occasionally, for years he had similar attacks, during which particles of timothy would be expectorated. On two occasions he spat up each time nearly a quart of blood.

Eight years after the accident, a number of minute bits of timothy were spat off while the doctor was present. These were examined under the microscope, and were found to be almost identical with those

from a fresh timothy head. Subsequently the patient materially improved in health. *Price-Brown.*

Worrall, C. H. — *Membranous Laryngitis with Hyperpyrexia from Malarial Poison.* "Lancet," October 29, 1898.

This is described as a case of "simple membranous" laryngitis in contradistinction to diphtheritic laryngitis. There was, however, no bacteriological examination of the membrane, and there is not sufficient record of the absence or presence of other symptoms to help in settling the diagnosis. About twenty-four hours after relief had been obtained by a tracheotomy, the temperature ran up to 105.9°, the child became unconscious, and died in a few hours. There was no post-mortem.

StClair Thomson.

ÆSOPHAGUS, Etc.

Wishart, Gibb. — *Peach-stone in Æsophagus; Perforation; Death.* "Canad. Lancet," October, 1898.

A woman, aged seventy-six, swallowed a peach-stone, which lodged in the upper part of the æsophagus, producing pain in the left side of the neck, and inability to swallow. One week later, by passing a probang, the obstruction was located 7 inches from the teeth. All attempts at removal through the mouth being ineffectual, an incision was made parallel with the anterior border of the left sterno-mastoid muscle. In separating between the carotid sheath and the tracheal coverings, a quantity of foul-smelling pus gushed out. The stone was discovered in the same line, outside the trachea. It was readily removed. The patient was fed by nutrient enemata, but gradually failed, dying on the seventh day after operation. *Price-Brown.*

Finlay, F. G., and Anderson, D. P. — *Carcinoma of the Æsophagus with Fatal Hæmorrhage from the Subclavian Artery.* "Montreal Medical Journal," February, 1899.

This occurred in a man aged sixty, addicted to chronic alcoholism. For some time previously swallowing had been difficult. There had also been extreme hoarseness. The larynx was examined by H. S. Birkett, who found complete paralysis of the left vocal cord and deficient adduction of the right. No. 8 œsophageal sound was arrested 13½ inches from the teeth, but No. 7 was passed into the stomach.

Four months later a No. 3 sound was arrested 8 inches from the mouth.

As the symptoms became more severe, there was marked rise in temperature, dull pain over the sternum, cough with scanty and fœtid expectoration, rigors, etc. Emaciation became extreme. Finally a slight attack of coughing was followed immediately by profuse hæmorrhage and death.

The post-mortem revealed cancer of the æsophagus above the bifurcation of the trachea. There was gangrene of the left lung. Perforation of the second portion of the subclavian artery had occurred, from the œsophageal ulceration, 2½ inches from its origin. *Price-Brown.*

StClair Thomson. — *Functional Dysphagia.* "Lancet," December 3, 1898.

After sketching the physiology of deglutition, the two forms under which functional dysphagia may appear are described, viz., a paralytic

and a spasmodic form. The etiology and symptoms of the affection are described, and the differential points of diagnosis indicated. Stress is laid on the importance in every case of dysphagia of making a thorough inspection of the upper air-passages, and of making a complete examination of the chest before passing an œsophageal bougie. The possible risks associated with the latter method of examination are referred to. Auscultation of the œsophagus is described. As regards treatment, the writer mentions that the immediate effect of passing a bougie was generally satisfactory, but that if the further histories of these cases were obtained it was frequently discovered that relapses were not uncommon. It was therefore important to follow up the immediate relief by strongly suggestive treatment, by attention to anæmia, by the removal of any possible source of reflex irritation, and, in short, by the whole armamentarium against hysteria. In conclusion, he points out that, after all, the most common affection of the œsophagus was carcinoma; that when a case of dysphagia presented itself, malignant disease should be the first suggestion which presented itself; and that the possibility of aneurism and other forms of ulceration (traumatic, syphilitic, and tubercular), should be excluded before the diagnosis of its being a functional disorder was decided upon. In a case of dysphagia the old advice was very applicable, viz., "to hope for the best and prepare for the worst." *StClair Thomson.*

E A R.

Brown, Walter H.—*Hæmorrhage from the Ear.* "Lancet," June 4, 1898.

Case in which the common carotid was tied for profuse hæmorrhage from the ear. There is no description of the condition of the ear.

StClair Thomson.

Brown, William J.—*Extraordinary Case of Horse-bite: the External Ear completely bitten off and successfully replaced.* "Lancet," June 4, 1898.

The case is described by the title. The bitten-off ear was picked up in a stable-yard. No appliances were at hand; so it was simply cleansed with warm water and sewn on with ordinary sewing-needles and thread. There was hardly any disfigurement.

StClair Thomson.

Calhoun.—*Adenoid Vegetations, with Especial Reference to their Influence upon the Ear.* "The Laryngoscope," March, 1899.

Children with adenoids are more liable to croup, laryngitis, bronchitis, and pneumonia than others. Children in Southern climates are much less subject to adenoid vegetations than in Northerly climates. The author does not remember having seen a negro child suffering from adenoid hypertrophy, though hypertrophied tonsils are common.

He briefly discusses the influence of adenoids in producing chronic catarrhal otitis media and suppurative otitis media. The former is due to altered air pressure and deficient action of muscles controlling the tubes, and the latter is due to hyper-secretion (from rarefaction) becoming purulent. A postponement of operation is recommended where there are no bad symptoms.

R. M. Fenn.

Cozzolino, Prof. (Naples).—*On some Operations for Primary Thrombophlebitis of the Jugular and Transverse Sinus, and for Extradural Otitic Cerebral and Cerebellar Abscess.* "Bolletino delle Malattie dell' Orecchio, della Gola e del Naso," Florence, October, 1898.

(Conclusion.)

In this case, having found a complete thrombus of the entire lumen of the exposed sinus, while the extremities of the thrombus appeared about to become organized, ligature of the jugular was not performed. Had I been able to arrange for a hospital bed, I should not have hesitated an instant to also ligature the jugular. As a matter of fact the percentage of recoveries in cases of thrombus treated only by curette is about a third less (50 to 53 per cent.) than those treated by curette and ligature of the jugular (62, 68 and 75 per cent.), according to the statistics of Körner, Forselles, and Ducellier.

The possibility of excluding septic pyæmia by aseptic methods has enabled intracranial surgery to extend itself to the other sinuses, as the superior longitudinal (three successes in three operations, MacEwen), which is at times attacked by infection from the lateral sinus diffused through the torcular, as well as on account of its special anatomical predisposition, demonstrated in 1894 by Dumont. It is also successful in thrombosis of the ophthalmo-facial from anthrax of the upper lip when it does not extend beyond the orbital veins (Lancial, 1896), this is not, however, the case with the cavernous sinus, in which attempts up to the present have been ineffectual, as in the cases of ligature of the jugular vein by Horsley (1887), curetting the orbit by Lancial (1890), and MacEwen (1893).

Operative interference in the beginning of suspicious symptoms is chiefly necessary in those individuals whose ancestors or descendants have died of similar otitic endocranial affections; indeed, according to Lermoyez the congenital dehiscences of the walls of the tympanum are hereditary and favour the diffusion of infection.

The most remarkable percentage of cures is certainly that obtained by MacEwen: in twenty-seven operations for pure thrombosis of the lateral sinus he has had twenty cures; in the fatal cases symptoms of septicaemia and pulmonary complications were present before the operation.* Equally happy is that of Lane, eight successes in ten operations.† Professor MacEwen has had also eighteen recoveries in nineteen cases of encephalic abscess, and four recoveries in four cases of cerebellar abscess.

Lebert first demonstrated that phlebitis of the sinuses is the intermediary between auricular infections and consecutive meningitis and cerebral and cerebellar abscesses, as osteo-phlebitis of the walls of the middle ear is the intermediary between them and epimeningeal or extradural abscesses; and therefore, also according to Lebert, one should never put off the rational surgical treatment, which should be employed even only for exploration if one wishes to make it appreciated by the profane, who judge always of the results *quoad vitam*. It is the great merit of the illustrious Murri that he first in Italy‡ encouraged

* "Pyogenic Infective Diseases of the Brain and Spinal Cord," Glasgow, 1893.

† *British Medical Journal*, 1893.

‡ "La Crainotomia esplorativa e la Diagnosi dell' Ascessocerebrale Cronico," *Polis-clinico*, Roma, 1895.

operators not to postpone the only procedure that can save life, because it resolves the problem *ubi pus ibi evacua*.

CASE IV. *True Extra-dural Abscess of the Temporal Fossa from Necrotic Extension from the External Auditory Meatus to the Entire Mastoid Apophysis and to the Tegmen, with Participation of the Rim of the Canal of Fallopius, resulting in Paralysis of the Seventh Nerve, the Result of Old Osteitis from Pyogenic Infection of the Middle Ear, without Cholesteatoma.*—In this case the most extensive sequestrotomy possible was performed, and having laid bare the tympano-mastoid tegmen, a free issue was given to the extra-dural pus, which had widely separated the dura-mater from the periosteum of the petrous bone. The local and general symptoms improved so much that recovery seemed certain, when a flow of cerebro-spinal fluid took place for some days owing to a spontaneous ulcerative perforation of the arachnoid followed by leptomeningitis and death.

CASE V. *Left Perisinusul Extra-dural Cerebellar Abscess involving the Transverse Sinus from Acute Endo-mastoiditis.*—In the case of this patient, a boy, the extra-dural abscess was due to an acute streptococcic infection of the mastoid cavity. The symptoms of otitic inflammation were associated from the beginning with those of endocranial mischief, while the cutaneous or external symptoms of endo-mastoiditis were wanting. There was pain extending from the middle of the head to the frontal region, a species of cranio-hemi-facial cephalalgia which is rarely the expression of retained exudation in the mastoid cavity. I at once performed mastoidotomy, breaking down two-thirds of the external wall, thereby exposing a *natural dehiscence* of the internal wall of the cavity corresponding to the sigmoid sulcus, from which issued a pulsating flow of pus. In view of this classic sign, I broke down the wall of the sigmoid sulcus, following the dehiscence as a guide, and thus evacuated all the pus retained between the dura mater and the cerebellar surface of the sulcus. The movement of the sinus was normal; there was only congestion of the large area of the dura mater exposed, about 3 cm. long by 2 cm. wide. The patient, on recovering from the anæsthetic, had no longer the painful subjective symptoms, the pus no longer appeared, nor was there any return of the reflex vomiting, or of the fever which had been observed during the six days preceding operation. Before being chloroformed the temperature was 38.5° C., eight hours after operation it was normal, and to-day, a month later, he is on the way to complete recovery. The repair of the surgical cavity proceeds aseptically, thanks to dry dressings. I avoid all antiseptic irrigation not absolutely called for by true local saprophytismus, especially in cases of endocranial infection.

This case shows once more that otitic infections, in order that they may invade the cranial cavity, have always need of openings, either pathological, as from osteitic processes of the cerebral or cerebellar surfaces of the petrous bone, or else by natural dehiscences from arrest of ossification. For this reason, endocranial surgery no longer follows the therapeutical indication, that in otitic infections one must usually enter the cranial cavity by the same auricular path by which the infection diffused itself.

These clinical observations have been confirmed by experimental pathology, and indeed it seems that up to the present no one has been able to bring about endocranial complications either in the meninges, the sinuses, or the brain, by means of infection of the middle ear in a

vast series of animals with pathogenic organisms the most varied both in species and in virulence.

CASE VI. *Extra-dural Cerebellar Abscess in the Occipital Region from Subacute Endo-mastoiditis with Grave Focal and General Symptoms.*—Patient, aged thirty-seven, after sea-bathing, developed a myringo-otitis. It should be stated that these affections are usually due to streptococcus, as I have proved bacteriologically in several cases, and resemble the median otitis which follows nasal irrigation with sea-water, as still prescribed by some practitioners. In the present case, the myringitis was followed by endo-mastoiditis, which a month later was attended by swelling of the retro-auricular region, severe pain in the ear and head, with vertigo and fever. A spacious antrotomy was performed, the mastoid cells being found congested and almost empty of pus; on the other hand, I found a subcutaneous abscess between the occipital region and the mastoid, for which I made a transverse incision in the skin for 4 cm. along the upper curve of the semilunar incision behind the ear, reaching to the periosteum. In this way a necrotic portion of the occipital bone was found outside the occipito-mastoid suture. This was suppurating with granulations, and having been curetted, the dura mater was laid bare. This secondary focus doubtless was due to occipital diverticuli of the mastoid cells, but though secondary, it gave rise to all the symptoms complained of by the patient.

The pus was completely evacuated by this operation, not being in contact with the transverse sinus in its horizontal portion, but below the occipital ridge corresponding to the sulcus, which lodges the sinus as far as the torular, whereby it did not issue in pulsatile jets.

Thanks to aseptic dry dressings, the parts broken down by the operation were completely repaired in two months, and the pyogenic infection had disappeared from the day following the operation. Endocranial extensions of acute tympano-mastoid infections, as is well known, are the exception, and in such cases we must assume that the meninges are not in a normal state of nutrition through disturbances of the circulation leading to more or less marked stasis. This condition is indispensable in thrombo-phlebitis, and, according to Lancereaux, is represented at certain points of the venous system by the limit of the force of the cardiac impulse and of thoracic aspiration, and displays itself in adults preferably in the veins of the limbs, and in children in those of the encephalon. At such points, owing to the slowness of the current, the micro-organisms, coming from the focus in the form of septic emboli, adhere more easily to the walls of the vessel and there set up the initial lesions of endo-phlebitis.

The following conclusions may be drawn from the preceding cases. Of extra-dural abscesses, I believe that those which are the primary result of circumscribed osteo-pachymeningitis are the most common and the least grave, arising from chronic infections of the internal and superior walls of the middle ear. In otitic endocranial complications, a first and immediate advantage of mastoidotomy is the diminished endocranial pressure and the improved venous circulation due to the hæmorrhage caused by the operation, especially in the region nearest to the otitic infection. Hence the urgency desired for such interference, which is all the more necessary that it acts as a prophylactic against endocranial extension of the infection, not by continuity or contiguity of the process, but by way of the lymph spaces and perivascular lymphatics.

Cerebellar extra-dural abscesses are more frequent than cerebral, either of the middle or posterior fossa. This is undoubtedly due to the tegmen being less exposed through gravitation than the interior wall of the mastoid cavity to the pathogenic influence of stagnant pus, notwithstanding that openings are more frequent in the tegmen than in the cerebellar wall of the mastoid. The symptoms of extra-dural abscesses are rarely typical, and very often run their course without any marked characters to distinguish them from pure endo-mastoiditis with empyema. They may also simulate those of leptomeningitis when the fever is high from the pus being under great pressure and having no outlet into the tympanum or mastoid cavity. Pain, either spontaneous or provoked by percussion of the mastoid apophyses, has no value as a symptom, especially if there is œdema or infiltration of the soft parts; but on the other hand, I attribute a real value in cerebellar extra-dural abscesses to the fact that the pus often flows *in jets from the mastoid surface of the internal wall of the mastoid cavity* owing to the impulse it receives from the sinus, and that it reappears quickly after being wiped away. This sign, which occurs ordinarily in the form of oozing, indicates a deposit of pus beyond the mastoid and in the cerebellar fossa, from which it issues with pulsating movements which are rhythmic with *inspiration*, for then the sinus dilates, always supposing it is not thrombous. Somewhat similar movements may occur in extra-dural cerebral abscess, but these are not rhythmical with inspiration. This pseudo-pulsation is due to the fact that the dura mater is adherent to the intracranial periosteum, causing strong pressure, which makes the pus flow in pulsating jets, which, however, do not coincide regularly with inspiration.

To recognise the presence of pus on the cerebral and cerebellar surfaces of the petrous bone, and to provide for it in time, means to extinguish the first stage of the infection, and to obviate the other graver endocranial complications. It is therefore the duty of the operator to minutely explore the surfaces he exposes by mastoidotomy, whether recurrent fever and localized headache be present or not, and still more so if these symptoms have been present and are not relieved at once by the mastoidotomy.

James Donelan.

Lerner, Dr. (Vienna).—On Tabetic Deafness. "Monatschrift für Ohrenheilkunde," October, 1898.

There are two classes of cases:

(a) *Middle-ear cases*, which probably constitute the majority. Many of these are no doubt accidental, and have no causal relation with the tabes; but other cases (of sclerosis, for example) seem to be related to trophic disturbances in the fifth and glosso-pharyngeal nerves. Treitel reports two such cases. There was salivation, and the teeth dropped out painlessly. Collet confirms this view.

(b) *Nerve deafness*, due to changes in the nuclei, trunk, branches, or end organs of the auditory nerve. Only in four cases have exact microscopic examinations been made: three are reported by Haug and one by Habermann. The changes found included atrophy, and disappearance of the nerve fibres in the roots, trunk, vestibular and cochlear branches of the auditory nerve. The nerve fibres were largely replaced by connective tissue, and the sheaths of the single nerve fibres were infiltrated with round cells. The nerve fibres in the saccule, utricle and cochlea and the ganglion cells were all similarly affected. The cells of the organ of Corti looked turbid and granular, and were

reduced in number. There were adhesions between the membrana tectoria and reticularis, and periosteal thickenings on the lamina spiralis. Only in one case was one of the chief nuclei found to be degenerated.

Lerner recounts the following case of bilateral tabetic deafness. Six or seven months after the onset of symptoms of tabes the patient began to suffer from rustling sounds in his ears. There was no deafness—rather hyperacousis. He felt as if people were shouting at him, and was occasionally dizzy. A few days later he suddenly became quite deaf in both ears. There was no pain or fever, no evidence of syphilis or drug poisoning. Deafness was complete for the watch and for speech on both sides. High notes were not perceived, but low notes were. "Weber" central; "Rinné" + on both sides, with greatly shortened bone-conduction.

Soon bone-conduction was almost entirely abolished, and only the notes of the very deepest tuning-fork could be perceived through the meatus. Rustling tinnitus troubled him sometimes for days at a time, and also dizziness, and attacks of shooting earache, lasting several hours. Inflation was felt (there was no anæsthesia of the ear), but it had no effect. There was no evidence of previous middle-ear disease. Lerner excludes primary disease of the labyrinth, labyrinthitis, embolism of the internal auditory artery, and syphilis, and concludes that the auditory nerve was at fault, but whether in the nuclei or more peripherally there is no evidence to show. There were no other symptoms of bulbar lesion. The galvanic current relieved the tinnitus often for several days.

William Lamb.

Spear, E. (Boston).—*Notes upon some New Low-toned Tuning-forks for Clinical Purposes.* "Archives of Otology," vol. xxvi., No. 4.

It is advised that these should be made of bell-metal, like those made by Edelmann for Bezold, and not of steel.

Dundas Grant.

Zaalberg, P. J. (Amsterdam).—*A Cutting Forceps for Aural Polypi.* "Monatschrift für Ohrenheilkunde," October, 1898.

A punch forceps on the plan of the conchotome, the upper cutting edge fitting within the lower so that bits of tissue can be removed without pulling.

William Lamb.

CORRESPONDENCE.

REVIEW OF DR. SCHEPPEGRELL'S RECENT WORK UPON "ELECTRICITY IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE NOSE, THROAT, AND EAR."

THE editors have pleasure in publishing Dr. Scheppegrell's letter. They submitted the work to a surgeon engaged in our special work, and an expert in electro-physics. Their note is added below.

To the Editors of the London "Journal of Laryngology."

GENTLEMEN,—The February issue of the JOURNAL OF LARYNGOLOGY arrived yesterday, and I have read with no little surprise the criticism of my recently published work on "Electricity in the Diagnosis and Treatment of Diseases of the Nose, Throat, and Ear." As your journal

is one of the most important periodicals published in the interest of diseases of the nose, throat, and ear, I expected a full and detailed review of the work in reference to oto-laryngology, but find this almost omitted, over two-thirds of the criticism referring to the physical part of the work. What little is said in reference to ear, nose, and throat diseases is of a most complimentary character, for which accept my sincere thanks.

It is somewhat inconsistent, however, to have "pleasure in calling attention to this excellent work," and to "confidently recommend Dr. Scheppegrell's work to the profession," and then occupy two-thirds of the review in finding fault. This refers especially to the subject of storage cells, and one would almost judge, from reading it, that the reviewer had some personal grievance in the matter. That storage cells are not adapted for galvanism, electrolysis, and cataphoresis is not only generally admitted, but is proved by the fact that they are not recommended for this purpose by dealers in electro-therapeutic appliances, that they are not used for this purpose by a single physician of my acquaintance, and that in a very complete review of the literature of the subject they were found recommended by one writer only. That the capacity of a storage cell for the above purposes compares favourably with primary batteries is practically absurd.

That physicians on the other "side of the Atlantic" should not understand the term "Edison current" is quite excusable, but that the reviewer should not, when it is carefully described in Chapter II., is not so. The term "constant potential current" is not synonymous with "Edison current," as the latter is a constant potential current generated in a particular manner, and, as stated in the work, the term is used to avoid circumlocution.

The other points at issue could be discussed in the same manner, but, as already stated, I expected the JOURNAL OF LARYNGOLOGY to review the work from an oto-laryngologic standpoint; and the reader is certainly justified in being disappointed when the reviewer fails to point out why he "recommends Dr. Scheppegrell's work to the profession, and congratulates him on its appearance."

The part of the work referring to the physics of electricity has been thoroughly discussed by a number of journals, whose competency in this special department is undisputed, such as the *Journal of Electro-Therapeutics*, *American Electrician*, *Scientific American*, and others, and I am pleased to say that these have not only failed to find the points to which the reviewer of the JOURNAL OF LARYNGOLOGY calls attention, but have been unanimously complimentary in their reviews.

While deeming it my duty to call attention to the inconsistency in this review, I would again express my thanks for the favourable criticism of that portion of the work which is especially in the province of the journal—viz., the nose, throat, and ear.

Yours respectfully,

W. SCHEPPEGRELL.

February 21, 1899.

[The reviewers have had an opportunity of reading Dr. Scheppegrell's letter, and had they known the author desired his work reviewed from a special standpoint, or been acquainted with his manner of conducting correspondence, they would have respectfully declined the honour. They were under the impression, however, that it was customary for authors, when submitting a book, to offer the whole work for review, and to seek criticism from any sincere or honourable standpoint. They note, further, that Dr. Scheppegrell has quoted the names of certain scientific journals of undoubted repute, but they think it better that these should be left out of the correspondence, not seeing any special reason for introducing them. The reviewers were chosen by the

editors, and readers can judge for themselves how far it is in good taste to suggest comparison by insinuation or inference. The reviewers regret that the author was not more explicit when he spoke of two-thirds being devoted to fault-finding. If he referred to the extent of the printed matter he is quite right, but the term cannot be applied to the value of the criticism, or the number of facts referred to therein. On the contrary, the reviewers only called attention to a few minor details, as they took care to mention, by way of suggestion for future editions. Dr. Schepppegrell's remark about the readers of this journal not understanding why the work is recommended is too trivial. The average reader will clearly understand the book was recommended because the reviewers found it worthy. There is no inconsistency when generally praising a work, and recommending it, in pointing out some minor details upon which they could not agree with the author. With regard, however, to Dr. Schepppegrell's remarks about storage cells, they still say they must respectfully differ from him: either secondary cells are adapted for the purposes referred to or they are not, and this question can be settled by scientific evidence. They note the statements in the letter about the literature and physicians of Dr. Schepppegrell's acquaintance, but these do not settle the question; and when he condescends in argument to state that a scientific fact is proved by what dealers recommend they decline to follow him. They have used storage cells for years for the purpose referred to, and have no hesitation in saying they found them not only well adapted for such work, but, when available, they do away with all the difficulties, and are much better than primary batteries. In reply to Dr. Schepppegrell's remark about Edison current, the reviewers would say that he admits it is exensable in physicians not to understand it. They are glad he has done so, as this was their reason for making the remark. He makes the further statement, however, that the reviewers ought not, because the term is explained in Chapter II. They regret they cannot accept his statement, because the author will find the explanation he refers to in page 14 of said chapter. It is true he explains the word "current," but not the name "Edison" which qualifies it. Any reader with a slight acquaintance with electrical terms can understand what is meant by current: but all the reviewers meant to infer was that the term "Edison current" (which they now learn "is a potential current generated in a particular manner") might not be understood so readily. To avoid circumlocution is commendable, which can scarcely be said when an author writes in such a way as to cause confusion. That is all they meant by their remark, and it aptly comes under the heading of minor details.—REVIEWERS' NOTE.]

REVIEWS.

Sajous's Annual and Analytical Cyclopedia of Practical Medicine. Vol. ii.: *Bromide of Ethyl to Diphtheria*. The F. A. Davies Co., Philadelphia, New York, and Chicago.

One welcomes the second volume of this work with much pleasure, although, sad to say, the literature is '96, '97. It contains much that is of interest to us, especially excellent and thoroughly exhaustive articles on Deaf-Mutism, and Cerebral Abscess. This does not strike one as definite enough for a work of reference, and of one of the finest annals in existence in any language.

Under Cramp we are pleased to see a bacteriological distinction, with somewhat ill-defined clinical differences, made between membranous croup and diphtheria. The tendency is to lay too much down to diphtheria, and to remember too little that whilst one swallow does not make a summer, it requires a large number to prove it is one.

Clark, J. G., M.D. "Johns Hopkins Hospital Reports," vol. vii., No. 4. —*The Origin, Growth, and Fate of the Corpus Luteum as observed in the Ovary of the Pig and Man*. The Johns Hopkins Press, Baltimore.

Dr. Clark's investigation is characterized by the care and scientific accuracy which distinguish nearly all the work which appears in the "Johns Hopkins Hospital Reports."

The author believed that repetition of the methods of previous

investigators would most likely yield no additional facts, for it is evidently a defect in these methods which has led to the disagreement in opinion. At the suggestion of Prof. Spathholtz, of Leipsic, in whose laboratory the research was carried out, Dr. Clark has employed a digestion method especially devised for the isolation of connective tissue, and special methods of staining which have led to conclusions which can leave little further doubt as to the origin of the corpus luteum in the higher animals and in man.

Dr. Clark's monograph is unquestionably the most complete upon the subject which has appeared for many years past, and will be read with interest by all who have worked at the minute anatomy of the ovary.

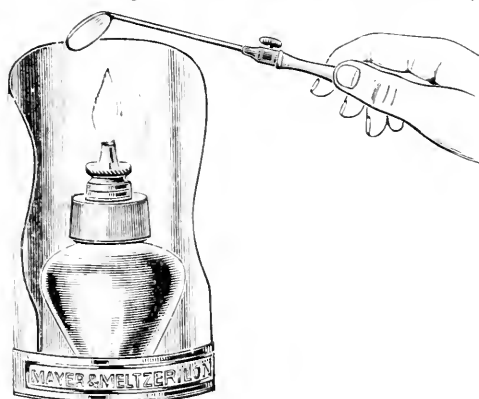
The Year-Book of Treatment for 1899. Cassell and Company, London, Paris, New York, and Melbourne. Price 7s. 6d.

This annual, now in its fifteenth year, has found a need and kept that need supplied. Not only is this year's résumé of usual excellence, but a larger amount than usual appears to us to be of use to the busy practitioner. Let us, however, at once proceed to the feature of the 1899 edition, viz., the open-air treatment of phthisis, by F. W. Barton Fanning. It is a section of great interest, and of undoubted utility, and we would strongly urge its careful perusal by all practitioners interested in the subject. Especially is it of interest to those who are or who contemplate trying the treatment on their own account. With regard to our special subjects, the names of the sectional editors are sufficient guarantee of excellent and exhaustive work. Mr. G. P. Field and Dr. StClair Thomson, the editors in question, have deserved well of the readers of the Year-Book.

NEW INSTRUMENTS.

Spirit Lamp with Draught Excluder.

THE accompanying cut depicts another of those skilful efforts at reducing the discomforts and annoyances laryngologists suffer



from to a minimum. This spirit-lamp is by Mayer and Meltzer, of 71, Great Portland Street, London, and they inform us that it is in use at Golden Square, and much appreciated there. It certainly has numerous advantages, as, besides allowing, or rather guaranteeing, a steady flame, it protects

surrounding objects from injury, etc. This invention will save much trouble, especially in draughty rooms and clinics.

NOTICE.**International Directory of Laryngologists and Otologists.**

THIS long-promised publication is now ready, and contains the names of eighteen hundred practitioners engaged in the study of Laryngology, Rhinology, and Otology. The first part consists of an alphabetical list, and the latter part of a town list, with full addresses in the greater number of instances. Its price is moderate for the labour involved—viz., three shillings and sixpence for leather and two shillings and sixpence for cloth binding—and may be obtained from The Rebman Publishing Company, 129, Shaftesbury Avenue, London, W.C., on receipt of remittance.

INTERNATIONAL CONGRESS OF OTOLOGY.**Museum Sub-Committee.****A CORRECTION.**

WE beg to call our readers' attention to a correction of the announcement we published in our last issue concerning the International Otological Congress. It is not the specimens themselves which are to be sent to the Hon. Secretary of the Museum Sub-Committee (Mr. Arthur Cheatle) by June 30, but only their descriptions. The specimens are to be deposited at the Examination Hall, Victoria Embankment, between July 26 and August 1, 1899.

THE LENVAL PRIZE.

THIS prize, which has been founded by Baron Léon de Lenval, of Nice, will be awarded at the International Otological Congress to be held in London, from August 8 to 11, 1899.

The regulations for its award which were passed at the Fifth International Otological Congress, held at Florence in 1895, are as follows, viz.:

1. In connection with the International Congresses of Otology, the sum of 3,000 francs has been given to found a prize, bearing the name of "The Lenval Prize."

2. The interest of this sum, which has accumulated between one International Otological Congress and the next, shall be awarded to the author of the most marked progress bearing on the practical treatment of affections of hearing during that time, or to the inventor of any new apparatus which is readily portable and improves considerably the hearing-power of deaf persons.

3. The sum of 3,000 francs will be deposited in a public bank in the hands of the President of the Jury.

4. The International Otological Congress will elect a Jury each time, consisting of seven members. The Jury will pronounce its decision at the closing meeting of each Congress.

The members of the Jury as at present constituted are Prof. Politzer (Vienna), Dr. Benni (Warsaw), Dr. Gellé (Paris), Prof. Pritchard (London), Prof. St. John Roosa (New York), Prof. Kirchner (Würzburg), and Prof. Grazi (Florence).

All persons desirous of competing for the prize are requested to communicate without delay with Mr. Cresswell Baber, Hon. Sec. Gen., 46, Brunswick Square, Brighton, England, stating the facts on which their claim is based.

BRITISH MEDICAL ASSOCIATION.

SIXTY-SEVENTH ANNUAL MEETING, PORTSMOUTH,
AUGUST 1, 2, 3 AND 4, 1899.

Section K.—Laryngology and Otology.

<i>President</i>	-	-	E. CRESSWELL BABER, M.B.
<i>Vice-Presidents</i>	-	(	JOSIAH GEORGE BLACKMAN, M.D.
		)	PATRICK WATSON WILLIAMS, M.D.

THE meeting of the British Medical Association will be held this year in Portsmouth from August 1 to 4 inclusive.

There will be a special discussion on "The Diagnosis and Treatment of Chronic Empyema of the Frontal Sinus."

Gentlemen having any specimens of interest, Röntgen-ray photographs, etc., connected with the subjects of the section, are invited to exhibit them at the meeting, and to forward them, carriage paid, before Saturday, July 29, to Dr. Cole-Baker, Bayfield, Kent Road, Southsea.

It is particularly requested that titles of papers or communications be sent as soon as possible, and abstracts of such not later than June 15, so that they may be duly notified in the Journal of the Association.

All communications to be addressed to The Secretaries, 101, Harley Street, London, W.

DRS. H. TILLEY, L. COLE-BAKER, and Mr. MUNRO FORDE are the Hon. Secs.

THE JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Original Articles are accepted by the Editors of this Journal on the condition that they have not previously been published elsewhere.

Twenty-five reprints are allowed each author. If more are required it is requested that this be stated when the article is first forwarded to this Journal. Such extra reprints will be charged to the author.

Editorial Communications are to be addressed to "Editors of JOURNAL OF LARYNGOLOGY, care of Rebman, Limited, 129, Shaftesbury Avenue, Cambridge Circus, London, W.C."

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

49th Ordinary Meeting, April 7, 1899.

A. BOWLBY, Esq., F.R.C.S., *in the chair.*

Case of Pachydermia Laryngis. Shown by Mr. C. A. PARKER.

A. C——, male, aged thirty-two, was first seen five years ago, suffering from well-marked and typical pachydermia laryngis, the greater swelling being on the right vocal cord. At first it yielded to none of the ordinary methods of treatment, but finally it was reduced by means of electrolysis, small portions also being removed by means of forceps. Two years ago the pachydermatous swellings had almost entirely disappeared, and the voice had much improved, but considerable general thickening of the larynx remained. Since then he has had several attacks of laryngitis, which have yielded to treatment. Three months ago, however, he returned with a marked pachydermatous thickening on the posterior third of the right vocal cord, and a corresponding swelling on the left. This is again yielding to astringent applications locally, and iodide of potassium internally, but it is still well marked, and there is a great amount of general thickening of the mucous membrane of the whole larynx, with laryngitis.

There is no history of syphilis. He drinks about one pint of

beer a day, and he does not use his voice to any unusual extent. As a boy, up to the age of seventeen years, he sang in a choir, and was able to take very high notes.

The long duration and the obstinacy of the case led me to bring it before the Society, in the hope of suggestions as to future treatment.

Case of Paresis of the Right Vocal Cord. Shown by Dr. STCLAIR THOMSON.

When the title of this case was sent in to the Secretary, the right cord was perfectly fixed in the cadaveric position. It was now seen, however, to be moving fairly well. The case was interesting from the variability of the symptoms. The patient was a man aged thirty-four, who contracted influenza last autumn, and has been hoarse since November. When first examined in January last, he was seen to have paresis of both internal tensors. This was confirmed at a second visit, and by several observers. At the end of a few weeks, although the patient felt his voice stronger, there was found to be complete abductor paralysis of the right vocal cord. There was nothing to account for this in his neck, chest, or general symptoms.

There was no history of syphilis, but as his wife had had several miscarriages he was put upon specific treatment. The laryngeal condition improved at first, then relapsed, and was now again rapidly improving.

Mr. BOWLBY mentioned the case of a gentleman, aged forty-eight, who, after influenza, nearly lost his voice, and had attacks of difficulty of breathing, having to gasp for breath after coughing. Examination revealed paresis of the abductors of both cords. At the end of three months this condition gradually passed away, under no special treatment, and the patient had since been perfectly well. Paresis of some of the muscles of the larynx was not a very uncommon thing.

Specimen of Large Thyroid Cyst. Shown by Dr. HERBERT TILLEY.

The cyst measured $10\frac{1}{2}$ inches in circumference, and weighed $11\frac{1}{4}$ ounces. It was removed from the left lobe of the thyroid gland in a female, aged thirty-five, who was suffering from difficulty of breathing owing to displacement of the trachea to the right.

Specimen of Old-standing Bronchocele, becoming Malignant and causing Pressure on the Oesophagus and Trachea. Shown by Mr. DE SANTI.

The patient was a woman, aged sixty, and had had a bronchocele

for some twenty years. For a few weeks before applying to the hospital she had had dyspnœa, which increased and caused much trouble. On examination, a large fibrous bronchocele was found; there was marked inspiratory dyspnœa, and no view of the larynx could be got. The bronchocele not only extended laterally, but also downwards behind the sternum. It had not increased much latterly.

A median incision was made, and a large part of the centre of the tumour removed. This gave complete relief for eight months. The growth microscopically was benign.

The patient was re-admitted for severe dyspnœa and dysphagia eight months after the first operation, and some more of the thyroid was removed. The trachea was not seen. Relief was obtained, but the patient died three weeks later from sudden cardiac syncope.

The specimen showed that the trachea was much deflected to the right, and was not only scabbard-shaped, but also flattened antero-posteriorly. The œsophagus was also much narrowed and deflected to the right. The enlargement extended mesially down to the left innominate vein.

Microscopically the thyroid showed no malignant characters, but the mediastinal glands in the neighbourhood showed commencing carcinomatous changes. Mr. de Santi referred to the difficulties such cases presented as regards tracheotomy, and stated that it was by no means uncommon to find these old-standing bronchoceles becoming malignant after many years, although originally innocent.

Mr. BOWLBY said the case illustrated exceedingly well the impossibility of removal of these tumours. It was a common experience, as far as malignancy was concerned, to find it commencing in a previously enlarged gland.

Dr. HERBERT TILLEY asked Mr. de Santi if he could say whether in this case the malignant disease started in the parathyroid structure, because, in a lecture on goitre recently given by Mr. Horsley, he had pointed out that such was often the case, a probability enhanced by the vascular and epithelial nature of this structure.

Mr. BOWLBY said that was not his experience. He had seen malignant disease start in the substance of the thyroid itself, not in the parathyroid.

Sir FELIX SEMON had seen several cases start in the thyroid itself after the original goitre had remained unchanged for twenty years or more.

Case of Primary Epithelioma of the Right Tonsil with Extension to the Tongue and Cervical Glands. Shown by Mr. DE SANTI.

The man, aged thirty-seven, had first noticed swelling in the right tonsil at Christmas, 1898, and had seen a doctor, who said nothing was the matter with him. He was again seen later, when he was told he had tonsillitis, and given a gargle.

Now there was well-marked cachexia. A foul ulcer was seen in the right tonsil. The base of the tongue was involved and bound down, and there was inability to open the mouth wide. The right cervical glands were typically enlarged and hard. The case was inoperable, and of very rapid growth.

Mr. BOWLBY thought there could be no doubt as to the diagnosis, and that operative treatment was impracticable.

Swelling in Interarytænoid Region. Shown by Dr. FURNISS POTTER.

The patient was a man aged thirty-one, a meat salesman and voice-user, who had suffered from hoarseness for about two months previously, and had had a cough with expectoration for an indefinite period—could not remember how long. On examination there was general hyperæmia of the larynx, the cords being thickened and slightly reddened. In the interarytænoid space was a pyramidal-shaped swelling, gray in colour as if covered with mucus.

According to patient's statement, he had been a teetotaler for the last three years, but previously had indulged freely in alcohol. There was no history of syphilis. No loss of flesh. Examination of sputum for tubercle bacilli yielded a negative result. No definite abnormal physical signs in chest.

Sir FELIX SEMON thought care should be exercised in the use of the expression "growth in the interarytænoid fold," as it was the experience of practically everybody that benign growths in that region—he referred to real new formations—were amongst the greatest rarities of laryngological literature. Was Dr. Potter's case not much more likely to be an instance of inflammatory thickening, and in such circumstances was the use of the term "growth" justifiable?

Mr. BOWLBY agreed with Sir Felix Semon, and asked if Dr. Potter would be willing to alter the title of the case. The term "growth" so definitely conveyed the idea of tumour formation as apart from inflammatory swelling that it was unfortunate to use it in a case like that before them.

Dr. POTTER said he had had some doubt in describing the

condition as a "growth." Perhaps "excrescence" or "swelling" would be more applicable.

Dr. WILLIAM HILL thought the condition was not like an ordinary swelling or infiltration, if by that was meant something mound-shaped. It seemed to him rather of the shape of the typical tubercular *growth* in that position than of a mere tubercular swelling.

Case of Lupus of Nose and Pharynx. Shown by Dr. WATSON WILLIAMS.

About two years ago patient, aged twenty-one, had a violent blow on the nose at football. The nose bled freely, and shortly afterwards became more or less persistently blocked on the left side. Crusts and discharge shortly after came from the left nostril, and after an interval of about six months from the right nostril also. About this time a bicycle fell on his nose, producing the depression of the bridge so suggestive of syphilitic disease. There is no history of syphilis, nor any family history of tuberculous disease. Latterly the throat has been dry, and the voice husky.

The cartilaginous septum has completely disappeared, but I find no evidence of necrosis of the bone. The inferior turbinal and the remains of the septum appear to be superficially infiltrated with lupus.

The soft palate has been partly eaten away, and the remains of the uvula shows lupus nodules, with clean superficial ulceration in parts.

The posterior pharyngeal wall and the vocal processes in the larynx show lupus infiltration.

I was suspicious of a syphilitic infection, and put the patient on large doses of iodide of potassium, and also on mercury; but he developed iodism, while the local conditions only progressed. The local application of lactic acid 50 per cent. does not appear to control the disease. I have applied nitric acid to the pharynx and soft palate, and I propose to curette away as much of the infiltrated tissue as seems justifiable, and apply nitric acid.

Mr. BOWLBY thought the suggestion, based on the statement of the patient, that the condition was the result of injury an exceedingly unlikely supposition. He believed it a case of syphilitic disease.

Dr. WILLIAM HILL pointed out that the disease actually had extended to the larynx, there being an ulcer in the interarytænoid region, and there was also considerable destruction of bone in the nose, which was against the diagnosis of lupus.

Dr. STCLAIR THOMSON also believed it syphilitic. A blow would have to be a very straight one in the middle line of the nose to flatten it out as it had flattened this one. He did not think lupus, though it might destroy the nose very extensively, produced such retraction as this case showed; and the pharyngeal condition confirmed this view. Dr. Watson Williams had previously shown a case of true tuberculosis of the septum which had been treated with tuberculin, and he would suggest the idea of testing this case in that way before going in for any extensive treatment. If that procedure gave a negative reaction, it might be advisable to treat the patient actively with inunctions of mercury before taking surgical measures.

A Case of Laryngeal Disease for Diagnosis. Shown by Dr. W. H. KELSON.

E. B—, a girl, aged fifteen, came complaining of loss of voice; duration two years; onset gradual.

Family History.—Parents alive; no history of consumption in family, but father has had bad throats, and sisters and brothers have had bad throats and eyes. Patient suffered from abscesses in the neck as a child. Three years ago suffered from interstitial keratitis, and as the eyes recovered, deafness came on and loss of voice.

Condition on Admission.—Patient is fairly well nourished. Auscultation of chest showed nothing abnormal; corneæ hazy. Central incisors rather pegged. Scars of old glandular disease in submaxillary regions.

Larynx.—Pinkish growths, having their origin apparently from the ventricles, obscure the view of the cord on both sides; portions of the growth have a warty appearance, other parts are smooth; the larynx is not at all tender on external manipulation.

Three Months after Admission.—The patient has had two grains of hydrarg. \bar{c} creta in pill every day, and small portions of the growth have been removed, with some improvement of the voice.

Present Condition of the Larynx.—On the right side the growth has much receded, and a slightly thickened cord is plainly visible. On the left side there is still much growth, and only occasional glimpses of the cord can be obtained. The left side also does not move so freely as the right, and the arytaenoid outline is not quite so sharply defined.

Sir FELIX SEMON thought it probably a case of syphilitic perichondritis, with fixation of the crico-arytaenoid joint and partial luxation of the arytaenoid backwards, the processus vocalis spring-

ing more forward than was natural. With the other evidences to that effect, the explanation that it was a case of congenital syphilitic disease was a very likely one.

Mr. SPENCER also thought it due to congenital syphilis.

Mr. BOWLBY agreed with this opinion, and remarked that it was not a common experience to find the swelling clear up as it had done on the right side, leaving a perfectly free cord.

Case of Polypoid-looking Growth springing from the Right Supra-tonsillar Fossa. Shown by Mr. ARTHUR CHEATLE.

A female patient, aged twenty-one, had complained of discomfort in swallowing for a month.

On examination, a smooth, pale growth, about $1\frac{1}{4}$ inches in length, was seen projecting from the supra-tonsillar fossa, and hanging over an enlarged tonsil, but quite distinct from it. Sections of the growth will be shown at the next meeting.

A Case of Old Syphilitic Disease in the Nose of a Woman aged Thirty-six. Shown by Dr. DONELAN.

There was extensive destruction of all the intranasal structures. He desired the opinion of the Society as to whether a patch of thickened and inflamed skin on the left side of the nose was not an added tuberculous infection. There had been no change in this patch under antisyphilitic treatment, though in the ten days it had been under observation the intranasal disease had been completely arrested.

Mr. BOWLBY thought this case probably syphilitic. The term "lupus" might be employed, indicating that it was a syphilitic lupus, but he did not think it at all like a tubercular affection.

Sir FELIX SEMON suggested that a tuberculin test might be applied.

Case of Miliary Tuberculosis of Fauces, etc. Shown by Dr. LAMBERT LACK.

Patient, a female, aged twenty-six, is very anæmic and wasted. She has suffered from a cough for about two years, has been wasting for six months, and for the last six weeks has complained of sore throat.

On examination, the mucous membrane of the fauces and adjacent part of the tongue and pharynx on the left side is reddened and slightly swollen. The surface is covered with minute, superficial, clearly-defined ulcers, with ashy gray, sloughy bases. At the periphery of the affected part the ulcers are distinct, and vary in size from a pin's head to a millet-seed. In the centre the ulcers are partly confluent.

The upper part of the larynx, the epiglottis, ary-epiglottic folds, and ary-tænoids are greatly swollen, and covered with superficial, worm-eaten ulceration. The cords, as far as they can be seen, are normal. The voice is clear, but weak. There is active phthisis at both apices, with cavitation at the right.

At the first glance the condition of the fauces much resembles herpes.

Mr. BOWLBY said the condition was not at all a common one, and described the case of a young man, aged twenty-four, who came to him complaining of a tickling cough, and some trouble in the back of the throat, but was supposed to be otherwise in tolerably good health. The affection was well marked, though not so far advanced as in Dr. Lack's case. It appeared to be a case of miliary tuberculosis, and heralded a very considerable extension of the disease, from which the patient died in three months' time.

Dr. HERBERT TILLEY described an identical case, that of a man, aged sixty-five, which was under his care last year, and in which there was laryngeal tubercle as well. The condition extended right on to the hard and soft palate, the base of the tongue also appearing superficially ulcerated. After a short while the patient died. Before coming to the hospital he had been practically starved, because of the pain in swallowing. Nothing relieved the dysphagia so much as orthoform, a little of which blown on his pharynx and palate enabled him to swallow anything given him with perfect comfort for some twelve hours after the application.

Sir FELIX SEMON spoke of a case he was at present treating for laryngeal tuberculosis, in which orthoform was proving of great use. The maximum effect of the application, according to the patient, was experienced in an hour; it lasted for about three hours. The susceptibility of different patients to its influence seemed to vary. Orthoform was not poisonous, and in that respect more advantageous than cocaine; it could, in an emergency, be left in the hands of untrained people with impunity. Its effect was also more continuous. For the application to be effective there must, in his hitherto limited experience, be a breach of surface. In cases of simple infiltration he had so far found it had no effect whatever. It was a useful application in cases where only palliative measures could be adopted. It had been lately recommended in Germany as an excellent thing in vaso-motor coryza, but in two cases in which he had tried it it had been absolutely ineffective.

Dr. MacGEAGH had also obtained good results from the use of

orthoform in tubercular disease of the larynx, the effect lasting for two hours.

Dr. STCLAIR THOMSON said he had tried orthoform to relieve the dysphagia after removal of the tonsils, but with no success. The pain in that case seemed to be more traumatic.

Dr. LACK had found orthoform extremely useful in preventing the neuralgia which occasionally followed the dressing of wounds, as in the case of the mastoid or maxillary antrum when the cavity was packed.

Case of Lympho-sarcoma (?) of Tonsils. Shown by Dr. LAMBERT LACK.

The patient, a man, aged forty-six, has noticed a small swelling on the left side of the neck for six years. The swelling has been increasing ever since, but during the last twelve months it has grown more rapidly. Patient has always been subject to attacks of acute tonsillitis.

Present Condition.—Both tonsils are enlarged, the left being very large, projecting beyond the mid-line, and very broad. It is firm, not densely hard, and is not ulcerated. There is a large, hard mass of glands in the anterior triangle on the left side, firmly fixed to the angle of the jaw and the surrounding muscles, etc. A few small glands, also fixed, in a similar position on the right side. The left side of the tongue is paralyzed and completely atrophied. The larynx is pushed over to the right. The pupils are unequal, the right being the larger. The man is in good health, has no pain, can swallow easily, and complains only of the swelling in the neck.

Mr. BOWLBY thought it a case of malignant disease, more probably lymphosarcoma than carcinoma, and that it was inoperable. The glands seemed to be more movable, rounded, and circumscribed, less hard, and causing less infiltration of the tissues and contraction around than in carcinoma. After a lymphomatous mass had existed for years, it often took on more rapid growth, and in some cases was, in others was not, amenable to arsenic.

Mr. SPENCER said that the glands seemed hard, and the infiltration of the hypoglossal nerve suggested that a good deal of the enlargement of the tonsil was secondary or inflammatory, and that there must be a deep-seated ulcer behind the tonsil which had extended to the glands. Unless it be the very malignant, infiltrating and bleeding forms, lymphosarcoma caused a large tumour in the throat, and had been easily removed. It also generally occurred in women. From the infiltration of the hypoglossal nerve he should have thought the disease carcinoma.

Case of Cyst of Thyro-hyoid Bursa. Shown by Dr. FITZGERALD POWELL.

Patient, a man, aged forty, states that seven or eight months ago he caught cold, after which he felt a small swelling on the outside of his throat, which after a time completely disappeared; but on again catching cold the swelling returned, and has gradually got larger ever since.

There is no tenderness on pressure, and no pain, and the tumour gives rise to no inconvenience.

On presenting himself at the hospital, a round, movable, fluctuating tumour, the size of a pigeon's egg, was felt to the left of the thyroid cartilage. It moved up and down on swallowing, and apparently was attached above to the hyoid bone.

I considered this to be a cyst of the thyro-hyoid bursa.

Mr. BOWLBY thought that, on account of its lateral position and its feel, it might turn out to be a cyst of the pyramid of the thyroid gland on the left side. Bursal cysts he believed to be more in the middle line. In the case of bursal cysts passing up behind the hyoid, it was better to leave them alone unless they caused much trouble. He was inclined to advise removal in the case of this laterally placed cyst, although it did not at present give much inconvenience.

Dr. PEGLER asked if members had met with successful results of operations in such cases.

Mr. BOWLBY said he had successfully operated on a patient who had been three times previously operated on for a sinus left after removal of a bursal cyst. He had seen other cases cured after operation, but they were certainly very troublesome.

Dr. FITZGERALD POWELL asked whether tapping or injecting should be employed when these cases were not operated on.

Mr. BOWLBY thought it would not be wise. The cyst should either be left alone or simply removed.

Case of Laryngeal Ulceration. Shown by Dr. FITZGERALD POWELL.

Patient, a man, aged twenty-three, complains that in December of 1898 he caught a severe cold in his throat, accompanied by cough and loss of voice, from which he had, however, quite recovered under treatment by his medical attendant.

In March, 1899, the loss of voice again occurred, and has continued to get worse up to the present. He says he has no pain or expectoration, and no difficulty in swallowing. He has not lost weight or flesh, but, on the contrary, has gained both.

Laryngoscopic examination reveals considerable swelling and redness of the whole of the larynx, particularly the ventricular bands, cords, and interarytænoid region, the swelling extending on to the under surface of the arytænoids themselves. The vocal cords are much thickened and irregular, and about the centre of the right cord is a dirty-looking grayish patch of ulceration, and another at the posterior end of the left cord. The arytænoids are red in colour and are not œdematous.

There is no history or evidence of syphilis, and careful examination fails to reveal any tubercular disease in lungs or elsewhere. His voice has slightly improved under treatment by iodide of potassium and soothing inhalations.

Dr. HERBERT TILLEY thought the case was a tubercular one, and suggested that the patient's evening temperature should be taken for a fortnight. It was possibly true there were no physical signs in the lungs, but in cases of tubercular disease of the larynx where physical signs in the lungs had been slight the evening temperature often gave a good clue as to the nature of the disease.

Case of Perverse Action of Vocal Cords. Shown by Dr. HERBERT TILLEY.

Patient is a female, aged twenty-three, of markedly neurotic temperament, who sought hospital relief for loss of voice of five weeks' duration.

Inspiration was accompanied by laryngeal stridor, and every few seconds the patient made a curious barking noise which could be scarcely called a cough. Examination showed that the vocal cords were adducted during inspiration. The passage of a laryngeal brush through the glottis practically cured the symptoms.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

General Meeting, Friday, April 28, 1899.

Dr. MIDDLEMASS HUNT, *President, in the chair.*

Mr. LENNOX BROWNE: *A Further Report on a Case exhibited as Epithelioma at the last Meeting.*

On the last meeting of this Association in January, I exhibited a patient who had been under my observation for nearly two and a half years, whose case had been diagnosed as one of intrinsic epithelioma of the larynx, not only by myself after repeated examination, but by all my colleagues.

The case was exhibited, as Dr. Macintyre suggested, because it was not typical of this disease as generally seen. Nevertheless, a case in his own practice tended "to support the diagnosis as epithelioma," and "he would not be inclined to set it aside." The President said his own view was very much the same. I was therefore somewhat surprised to see, in the necessarily brief report in the *Lancet*, that the remarks of these gentlemen were rendered in the single sentence, they "were inclined to doubt the diagnosis."

The President did not see "any way of settling it except by microscopically examining a portion of the growth." This, for fear of arousing latency into activity, I had not hitherto done, but on the next visit of the patient, he, having heard somewhat of these doubts, readily acceded to the suggestion. The result is contained in the specimen and the report rendered to me, and will be given by Mr. Wyatt Wingrave, pathologist of the hospital.

Personally, I may say that the result confirms my previous experience of the course of intrinsic neoplasms in the old, and it justifies, if justification were needed, the inactive policy which has been pursued.

I do not hesitate to add that while it proves the possibility of malignant conversion of a benign neoplasm of the larynx, it also demonstrates that irritation by intralaryngeal operations is not necessarily a factor of this process.

Mr. WYATT WINGRAVE said the specimen given him to examine was very small, but there was enough to enable him to conclude that it was diffuse papilloma, since it consisted almost entirely of stratified epithelium which had the definite arrangement of a histologically innocent growth. But on passing to other portions, there was a distinct tendency on the part of the cells to group themselves as nests, unlike the nests of papillomata, and bearing more the characters of young epithelial pearls. In the centre of these nests the cells were extremely variable in size and shape; so also were the nuclei, indicating a considerable tendency to epithelial activity, in contrast to the remainder of the specimen. He would therefore conclude that the comparatively quiet papilloma in the first instance was probably undergoing a much more active change, strongly suggestive of histological malignancy.

The PRESIDENT recalled the fact that when the patient was shown by Mr. Browne, he (the President) did not see sufficient evidence, clinically, to justify a diagnosis of malignancy; but, of course, one was at a disadvantage in seeing the case only for a minute or two, without having had an opportunity of watching its progress. It was impossible under those circumstances to say it

was not malignant; the attitude he took was that on clinical grounds he would not feel justified in operating. Mr. Wingrave's report now seemed to make it more certain that the growth was malignant, though even yet there did not seem to be absolute certainty.

Mr. BARK said he did not think, when he saw the patient, that there was any clinical evidence of malignancy, and was now rather surprised to see the section, because it looked like epithelioma. It would be interesting now to know what course Mr. Browne intended to pursue.

Mr. BROWNE, in reply, said that as the patient was only suffering slight dyspnoea, was sixty-nine years of age, and was not engaged in any work, he proposed to let him go down the hill quietly, without operation. Many intrinsic epitheliomata in the old pursued a chronic course. His voice had been practically lost for several years.

The PRESIDENT read notes of a *Case of Hysterical Aphonia* which had lasted for eleven years.

Following on a severe mental shock, the patient was mute for three or four years; then she began to whisper, and in the past two years had developed a deep, rough voice, which the laryngoscope showed to be produced by vibration of the false cords (taschenbandsprache). All methods of treatment were tried in vain, but the voice returned suddenly six months ago, after exposure to great excitement, and had remained normal ever since.

Mr. LENNOX BROWNE said some doubted that the case was hysterical because there was dumbness with the aphonia, which he thought was an absolute sign that it was purely nervous. Sometimes hysterical loss of voice preceded, occasionally by years, tuberculosis. In some cases an imperfect blast of air would set the cords in motion—cases in which there was general anæmia and neurasthenia and early mental change. On the other hand, hysterical cases were often associated with deaths. It would be interesting to know whether the patient had had long periods of watching in a case of sickness, the lowering of the system having manifested itself in so-called hysterical loss of voice. He had not seen such cases of speaking with the ventricular bands, and thought they were a little difficult to determine. Lord Lister had spoken of a case at King's College Hospital in which the soft parts had been removed for benign papilloma, and the patient spoke with the aryepiglottic folds; the sphincter of the vestibule of the larynx tended to supplant the function of the vocal cords in voice-production. In the present case the girl had absolute shock, which took

away both her voice and her speech, but was firmly desirous of doing her best to speak, and so worked her ventricular bands. He thought that was the explanation of the case, which presented features that had not been very much discussed before.

Dr. DUNDAS GRANT said that, with regard to the literature of ventricular band phonation, he (Dr. Grant) had brought forward a case at the London Laryngological Society, that of a school-mistress, in whom the aphonia was of gradual onset. She had many evidences of hysteria—hemianæsthesia, restriction of visual field, and diminution of hearing on the same side as the hemianæsthesia. He found that the hoarse voice was due to approximation of the ventricular bands. He had read Dr. Middlemass Hunt's paper, and learned from that that the vocal cords could be coached to take on their duties if the sound were produced by an inspiratory blast. In his case the result of that was extremely agreeable. He thought there was some general interest attaching to this action of the ventricular bands. His opinion was that it was a vicarious effort for the nearest structure to take on the functions of the vocal cords. It also pointed to the reality of the difficulty in utterance, because it evidently was not a sham or an unwillingness on the part of the hysterical patient to utter the sounds. In Lord Lister's case he thought that was all the more accentuated. It was very similar to what he had seen in a case of hysterical deafness, where the patient was absolutely deaf so far as the hearing of speech was concerned; but so anxious was the patient to hear that she had acquired the art of lip-reading. He had satisfied himself of that fact by moving his lips as if speaking, but without uttering sound. Such a condition was as unlike malingering as anything could possibly be. Such cases of hysterical aphonia as Dr. Middlemass Hunt had related were of great rarity, possibly because they were cured before there was time for the ventricular bands to take on the function.

Mr. WYATT WINGRAVE said he had seen two examples very similar to that described, one of them being that to which Dr. Grant had just referred. In that case he fully confirmed what Dr. Grant had said. The woman was simply a mass of nerves. The other case was that of a young girl, who had lost her voice about sixteen months. There was not only complete paralysis of adductors, but also paralysis of her soft palate, which led him to investigate whether she had had diphtheria. He, however, could get no such history. There was marked adduction of the ventricular bands. This gradually got better, and she became perfectly well, though the tendency of the ventricular bands to be

a little too forward remained for some time. He thought the cases in which the ventricular band advanced more than the vocal cords were really due to the fact that they were of prolonged standing; hence their rare association with hysterical aphonia.

Mr. LENNOX BROWNE thought that the term "false vocal cords" was perhaps worth retaining.

The PRESIDENT, in reply, said his opinion as to the causation of the condition coincided with that of the other Fellows. He (Dr. Hunt) had only seen two cases, and the second had loss of voice for three years. He restored her voice at the first sitting, and she had remained right ever since, so far as he knew. During those three years the girl served in a shop, and made constant efforts to speak, thus bringing the ventricular bands tightly together. He gave her half an hour's exercise, after which she went away talking normally. He thought the application of electricity was not of much use. The girl he had referred to had had the battery applied by competent persons on many occasions during those three years, but without the least effect on her voice; indeed, he would conclude it would have the opposite effect. The only method of affording benefit in such a case, he thought, was by using the inspiratory blast to cause the sounds. He tried that with the second case, and, although he could get the true cords to come out as soon as she tried to phonate, it was followed by the same result, and he gave it up in despair.

Dr. ABERCROMBIE showed a *Case of Laryngeal Papilloma*, with apparent defect of the posterior end of the left vocal cord, in a boy aged nine years, the subject of *nasal obstruction* from enlarged tonsils and adenoid growths.

F. P.—, a boy aged nine years, was brought to me on November 28, 1898, complaining of "hoarseness" of about two weeks' duration, which was attributed to a "cold."

I found he had enlarged tonsils and adenoid growths, and that he was a mouth-breather as a consequence of the nasal obstruction present. On examining the larynx, a pediculated growth of about the size and shape of a small horse-bean was seen attached to the free edge and upper surface of the left vocal cord, at about the junction of the anterior and middle thirds. In colour it was pinkish-white, and it presented a cauliflower-like surface. On attempted phonation, the growth occupied a position partly between and partly above the cords, thus preventing their accurate approximation, and accounting for the hoarseness. It was also noticed that the posterior end of the left vocal cord appeared to be

deficient, being united somewhat irregularly with the left ventricular band at that part, and presenting an appearance quite distinct from what is so commonly seen—namely, a mere covering of the cord by the band. Hoarseness was the only symptom complained of, and this had never proceeded to the extent of complete aphonia. There had never been dyspnœa, dysphagia, pain, nor bleeding; nor was there complaint of the feeling of a foreign body, although the patient's mother noticed that he sometimes made the movements of swallowing "as if trying to get rid of something sticking in his throat."

On December 24, 1898, after well cocainizing the pharynx and larynx, I was fortunate enough to remove the whole growth at the first attempt with Gibbs' laryngeal snare, and at once the voice became very much better, though not quite normal. The Clinical Research Association reported that the tumour was a papilloma—a microscopical section of it is exhibited to-day on the table. My colleague, Mr. Wyatt Wingrave, who has himself examined the specimen for me, says it is a typical papilloma.

A week after the operation the voice was almost perfect, and on examination of the larynx it was difficult to detect anything abnormal in the left cord, with the exception of the apparent deficiency of the posterior part already mentioned.

I recognised the importance of removing the nasal obstruction—a point strongly insisted on by Mr. Lennox Browne in such cases—and so I advised that the tonsils and adenoid growths should be operated on. The parents, however, decided to postpone the operation, and I did not see the patient again till the 22nd of this month (last Saturday), when some evidence of recurrence at the site of the growth was noticed, although the voice remained good.

Mr. Lennox Browne saw the little patient with me on that day, and very kindly made a coloured drawing of the larynx, which will be passed round.

I propose now to remove the tonsils and adenoids, with a view to the prevention of further recurrence of the laryngeal growth, by establishing nasal respiration, and so removing one source of laryngeal irritation. It will be interesting, I think, to watch the case after this has been done, and to record what happens: whether the present slight evidence of recurrence disappears, or whether it remains as it is, or whether it develops into a fresh growth.

I shall be glad to have the opinion of the Fellows present with regard to the apparent defect in the left vocal cord. There is no history of any laryngeal affection that might have caused it; the patient is a very healthy boy, and his only illness was measles.

Is it a congenital defect? I believe the larynx is said to be particularly free from congenital malformation.

I may say that his voice within the last few weeks was considered sufficiently good to enable him to join a choir, and that he has recently attended several choir practices. Recognising, however, that the use of the voice is a prominent etiological factor, I have strongly advised against this, and have recommended as much rest of the voice as possible for the next five or six months.

The patient is here to-day for examination. I would ask those Fellows who examine the boy's larynx to make a mental note of its present condition, so that they may be able to compare this with its state at the next meeting, when I hope to show the patient again.

Mr. LENNOX BROWNE: This case of Dr. Abercrombie's is exactly one suitable for discussion at this Society. I congratulate him heartily on having removed the growth at the first attempt, and with an instrument which I consider quite the best for children, and, indeed, for all cases in which the growth has a pedicle. At the same time, holding the views I do with regard to the etiological relationship between nasal obstruction and benign neoplasms, I could almost have wished that Dr. Abercrombie had resisted the temptation to remove the growth, and had first cleared the nasal breathway. The success with which Hunter Mackenzie has treated these cases in the young by a simple tracheotomy should be an encouragement to such a procedure wherever nasal obstruction by adenoids, or otherwise, and laryngeal neoplasms co-exist. However, as there is a tendency to recurrence, the point can still be elucidated in this case, and we shall all be interested to hear of the further progress. The advice of Dr. Abercrombie, that exercise of the singing voice be interdicted for some months, is sound, especially where, as in this case, the growth has appeared at a nodal point. As to the so-called deformity of the vocal cord, I rather doubt its congenital character, for, as far as I know, no such case has ever been recorded. I should rather be inclined to attribute it to some plastic inflammation, and probably as a complication or sequelæ of the measles, in which, as is well known, the respiratory passages and organs are the selected site for secondary attack.

Dr. DUNDAS GRANT thought they all agreed in praising the course which had been adopted in this case. No doubt it would have been of interest to have seen the effect of removing the adenoids, and probably in time a strikingly successful result might have been achieved; but he did not think it would have been justifiable to have allowed the boy to go on with such a large

growth in his larynx for the sake of any such investigation. What Dr. Abercrombie, with Mr. Browne's concurrence, intended doing was as far as the experiment ought to be carried. It should be left in its present state until the nose was cleared; but it seemed to him that it must be recurring with some degree of rapidity, because he (Dr. Grant) would have had a difficulty in identifying the defect on the posterior part of the vocal cord. If the present case had been under his own care, he would have used the interlaryngeal forceps, which were particularly appropriate in such a case, and he would follow that up with a spirituous solution of salicylic acid in gradually increasing strength, which he believed to be of great value in preventing the recurrence of papillomatous growths.

The PRESIDENT thought, from the glimpse he had of the case, that there was no defect, the idea that there was such a defect being due to thickening of the anterior two-thirds of the cord. It was, apparently, not a single papilloma, but papillomatous thickening, extending along the edge of the cord, with the defect at the end. The fact that the boy had been able to sing seemed to show that there could not have been very much defect in the neighbourhood of the vocal process. He had never had any illustration of clearing of the nose causing disappearance of laryngeal papillomata. In the majority of cases he had seen there was no evident nasal obstruction, but he had never looked for it. In the majority of the children, papillomata were in the larynx alone. It would be interesting to know if there was a series of cases recorded in which clearing of the nose had been shown to remove them. He had seen papillomata disappear spontaneously at puberty. He would also be glad if any member could say what proportion of children with papilloma were actual mouth-breathers.

Mr. LENNOX BROWNE hoped he might accept that as a challenge. Nasal obstruction was an admitted cause of laryngeal hyperæmia. The Chairman admitted he had not looked for the condition he had spoken of. The idea was a new one, though some years ago he (Mr. Browne) did bring forward a case of arrest in a child who came from Canada, and whose case was reported in his book. Removal of the adenoids cured the papillomata. He saw the child ten years afterwards in Toronto; a little piece of the growth remained, but the girl had quite a clear voice, and had had no tendency to recurrence. Not many years ago he (Mr. Browne) said he believed that every case of laryngismus stridulus was associated with mouth-breathing, and that, if searched for, adenoids would be found. That had been ridiculed in a leading article, but last year Dr. Macdonald made the statement as if it

were an accepted classical symptom. He asked that when children were presented with papilloma adenoids should be looked for. At present he was not in a position to make any definite assertion on the matter.

Mr. BARK said he had one case where there was very marked adenoid growth, enlarged tonsils, and multiple papillomata. He had followed Mr. Browne's advice, and thoroughly cleared away the adenoid growths and removed the tonsils, but he still had eventually to remove the papillomata in the ordinary way.

Mr. LENNOX BROWNE said the warts occurred elsewhere. He had a young lady with an enormous polypus in the nose, and the case was figured in his book. She had also a crop of warts on the side of the neck. Shortly after the removal of the polypus the whole of the warts disappeared.

Dr. ABERCROMBIE, in reply, said that since last Saturday there had been a distinct increase in the recurrence of the growth. The boy had agreed to give up singing for a time.

Dr. DUNDAS GRANT: *Case of Asymmetry of Frontal Sinus revealed by Operation.*

The age of the patient, a female, was twenty-one. She had attended as an out-patient for some months for purulent rhinitis, which Mr. Wingrave attributed to ethmoidal disease, and the constant concurrence of polypi seemed to confirm this. By transillumination the right antrum was found dull and the frontal sinus fairly dull. On puncture of the antrum a considerable amount of fetid pus was washed out, and it seemed very probable that there were polypi growing into the antrum. He (Dr. Grant) therefore made an opening into the antrum, but found nothing more solid than a very offensive smell. He thought that probably the antrum had been acting as a cistern for the collection of pus from the frontal sinus or one of the ethmoidal sinuses. As to polypoid growths, there was a very slight mulberry condition on the inner wall. He scraped away a small portion of the growths that were there, and closed up the antrum again with a suture, which healed by first intention. There was still some discharge from the nose, and he thought they must now attack the frontal sinus. He was careful to make his opening into the right frontal sinus in the normal situation on the right side, as mapped out by Chipault, and as confirmed by Tiily's investigations on a large number of skulls. But the probe, instead of passing through the right infundibulum, entered the left one, and came into the left nostril. It was obvious that that was a case of extreme asymmetry of the

sinuses. (Drawings illustrating Dr. Logan Turner's investigations were exhibited.) Consequently he ceased exploring altogether in that direction. A fresh opening lower down led him into the right nostril. He left in a drainage-tube for a few days, and then removed it. The patient would be shown, and it would be seen that the operation had caused no appreciable disfigurement. The patient was very considerably better, regarding the growth of polypi. She was, however, still conscious of the subjective fœtor, and he (Dr. Grant) would like to hear some opinions as to the cause of its persistence.

Dr. MILLIGAN said he had seen an almost similar case to Dr. Grant's, which he had operated upon eighteen months ago with a similar experience. The probe came out in the other nostril. He thought transillumination had a certain value in mapping out the sinus.

Dr. DUNDAS GRANT: *Notes of a Case of Operation for Frontal Sinusitis, with Unsatisfactory Result of Gauze Plug instead of Drainage-tube.*

The case was one of well-marked frontal sinus disease. He opened the sinus in the ordinary way, and pus welled out in quantity. He curetted it freely in the sinus and down the infundibulum, and thought it would be a suitable case in which to use a plug of iodoform gauze down the infundibulum, instead of a drainage-tube. But he was disappointed with the result. He closed up the wound. There was a burrowing of pus beneath the soft parts, so that he had to open several abscesses. The patient had considerable febrile disturbance, and had still a copious discharge, and some also from a fistula at the site of the operation. He would have to reopen the sinus and introduce a drainage-tube. He would be inclined to deprecate the gauze for such a case, and would be glad to hear of any experiences bearing on the matter.

Dr. MILLIGAN said Dr. Grant's case reminded him of one he showed before the Society, in which he thought it inadvisable to immediately close the external wound. Sutures should be put in and the case treated as was one of mastoid disease, and the suture tied two days afterwards. He had had the same experience recently, when the wound was closed at the time of operation. Septic synovitis had been produced and an abscess formed. Therefore he had adopted the plan of putting a tube in and leaving it projecting externally for thirty-six to forty-eight hours.

Dr. HILL said he always closed the wound up at once in these cases; it was an unnecessary detail to have to do it the next day;

and he had never had to open such a case again. He did not block up the infundibulum with gauze, nor use an indiarubber drainage-tube. He made a big opening, and if that would not do he did not know what would. Infection of the wound might occur, but he had not seen it, and he did not think they need anticipate it.

Dr. GRANT thought it wise to keep the wound open if it were very purulent. The middle course suggested by Dr. Milligan was a very just one, and it was what he had carried out in the young lady who had just been exhibited. He left the tube projecting from the wound, and after a day or two tied a string to the tube; then let the tube sink in to what he thought the proper depth; then he removed the string, and ultimately the tube itself.

Mr. BARK agreed with Dr. Hill that it was safer to make a big opening in the floor of the frontal sinus, so that there could be a free flow into the nose, which in itself was sufficient drainage.

Dr. STOKER reminded the Society of a case he showed three years ago, which was cured by the oxygen treatment. The diagnosis was disputed, and it was thought that the only way of settling the point was by opening the frontal sinus, but as the case was cured by the oxygen he did not think that course was justifiable.

Mr. CHICHELE NOURSE showed a *Case of Empyema of Frontal Sinus treated through the Infundibulum*.

This patient, a gentleman aged thirty, had been troubled with a continual discharge from the back of the nose, and chronic nasal catarrh of four years' duration. He always felt dull and heavy, and had a sensation of tension across the forehead. Pus was seen to be flowing from the middle meatus of the left nostril, where a small polypus was attached. Transillumination, also, showed a dark shadow over the whole of the left side of the face. The antrum, which contained fœtid pus, was treated through the socket of an upper molar, and became healthy; but the patient still complained of symptoms, and under the anterior end of the middle turbinal pus soon reappeared after syringing the antrum and wiping the interior of the nose with wool. The anterior extremity of the middle turbinal was then removed, together with another small polypus, and afterwards a probe suitably bent passed easily along the infundibulum and entered the frontal sinus. A silver Eustachian catheter bent to the same curve was used for emptying the sinus by blowing air into it.

Various forms of local treatment in turn produced temporary improvement, until on January 27 a fine rubber drainage-tube was introduced into the sinus from the nose by threading it on a curved

probe. This proved satisfactory: after blowing out the fluid contents of the sinus and introducing the tube, the cavity was found to be empty when examined the following week. Two months later a tube of larger calibre, No. 14 French gauge, could be introduced, and the patient has since been wearing one of that size, 7 cm. long, almost continuously. He is now much improved and free from discomfort, though not absolutely well.

Dr. MILLIGAN said, in reference to Mr. Nourse's case, he had not seen that line of treatment used. It appeared to be rather a palliative measure. The mucous membrane in chronic frontal sinus disease was not in a healthy condition, and the tube did not seem to touch the origin of the trouble. Curetting or some form of local manipulation was required. He had read of one case in which an instrument passed along the infundibulum was effective, but the anatomical relations of the part were so uncertain that such manipulations had in them an element of danger. In the particular case to which he referred, part of the sinus was absent, and the probe was pushed into the cranial cavity, resulting in septic meningitis and death. The operation from the outside had practically no risk; and it had the double advantage of enabling the operator to see what was the actual condition of the interior of the sinus, and enabling it to be dealt with in an effective way. Still, Mr. Nourse was to be congratulated on the result of his operation.

Dr. DUNDAS GRANT, in referring to Mr. Nourse's case, strongly commended treatment through the natural passages whenever possible. There were cases which, if caught early enough, could be treated successfully by the internasal method. For instance, in some of the post-influenzal cases that dragged along owing probably to the discharge in the frontal sinus not having a free exit, due to swelling on one side of the infundibulum, or to the covering up of the infundibulum by the cushion of the middle turbinated body, they should first direct attention to the removal of the obstructions before opening the sinus, because though the opening of the sinus was usually attended by complete recovery, it was not so always. They knew how surgeons of great skill were driven in the first place to making a small opening for drainage purposes, a little larger for curetting purposes, and at last to perform an operation, so that the skin and mucous membrane might fall in and thereby produce complete obliteration. More than one eminent surgeon had got such cases on his mind, where their procedure, instead of widening the passage, led to a cicatricial contraction of it. Therefore he thought they should encourage every attempt to treat such cases through the natural passages. He (Dr. Grant) had had cases

so treated which had been disappointing, and others which gave him the greatest possible gratification. He remembered one case in which there was a foetid discharge from the right sinus, which he treated through the natural passage, applying cocaine and then introducing Hartman's bent cannula and blowing out the contents, and then blowing in mentholized camphor, with the most beneficial results.

Mr. BARK could only recall two cases in which he had attempted to treat frontal sinusitis after the manner described by Mr. Nourse. The first was a young lady who refused to have the frontal sinus opened from the anterior wall, and the infundibulum was very patent. The tube was kept in twelve months and syringed out with different solutions, and certainly the discharge ceased to a great extent. He then lost sight of the patient. As the discharge was so much less, he took the tube out.

The second case was that of a young man, with whom, on the encouragement derived from the first case, the same method was applied, but it went on without any good result. Therefore he resorted to the radical operation, and found the mucous membrane in a state of granulation, with some polypoid projections. Curetting was performed, followed by drainage, and cure ensued. It was worth considering whether, as Dr. Grant had suggested, those cases could be treated through the natural openings. Trephining the frontal sinus was devoid of danger, but an objection was that there was some amount of deformity, which was an important matter.

Mr. LENNOX BROWNE thought that if the antrum were opened externally a very much better result would be obtained through having had the indiarubber drainage-tube in. He thought that if Mr. Nourse did nothing more than confirm his diagnosis, and keep in the rubber tube, he might look forward to a better result when he had to open the frontal sinus. If the trouble were traumatic, there was likely to be adventitious tissue in the cavity.

Mr. NOURSE, in reply, said the reasons which led him to the course he had adopted were, not only that the frontal sinus lent itself to it, but because during his attempts to treat it through the natural opening he nearly succeeded in obtaining a cure; but in a week or two afterwards a swelling would come and the whole trouble recur. The probe he used was very much bent, so that when in the infundibulum it passed well forward and outwards, thus minimizing the risk of penetrating the posterior lamina. He was unable to introduce the large tube first. A fine tube was inserted and left in for some time, and seemed to act in much the

same way as tying in a catheter. Afterwards he could get in a large tube.

Mr. ST. GEORGE REID exhibited *Bacteriological Specimens of Bacillus pyocyaneus*, and said that Dr. Stoker had shown a specimen of the *Bacillus pyocyaneus* in connection with a case cured by the oxygen treatment, and he (Mr. Reid) wished to point out that there were two kinds of that bacillus, one pathological and the other not. He ventured to say that it was the latter which came into Dr. Stoker's case. It was a remarkably small bacillus, 1.5μ long, and it never spored; the other was 3.5μ long.

Dr. STOKER said that Mr. St. George Reid's conclusion might possibly be correct.

Dr. DUNDAS GRANT: *Cases of Radical Operation for Chronic Suppurative Otitis, and Case of Atresia of Right External Auditory Meatus.*

Dr. GRANT said two of the cases were ordinary radical operations for chronic suppuration of the middle ear. In one of them there was simple chronic suppuration, which persisted in spite of all ordinary treatment, and the patient suffered from general ill-health. He was not seriously ill, but was somewhat wasted, and had occasional headaches, therefore he operated in the ordinary way, and the result, he thought, would meet with the approval of Fellows. At the operation he did not remove the ossicles, and there was later a little oozing from the upper part of the tympanum, and he found the malleus lying embedded in granulations. He removed it, and since then the discharge had completely ceased.

The other was the case of a policeman, who came to him three weeks ago. He had had a discharge from his ear for many years, and was then suffering from headache. The temperature had risen, and the operation was therefore at once performed, without knowing exactly what would be found. He found a large antrum filled with cheesy pus and broken-down epithelial masses. He cleared that out completely, and removed the skin of the posterior wall of the meatus more thoroughly than usual, so that the healing was rather slow inside. The patient had now lost his headache, and was quickly getting well. Neither of the cases had been in bed more than a week, or in the hospital more than a fortnight.

He had another case which was more extraordinary. The patient was an old man, who for the last two years had been deaf of his right ear, with a slight swelling, probably from an abscess which had gradually dried up, and simply left the swollen tissue

behind. The meatus was so reduced in size that it would scarcely take a goose-quill, and it was also filled with fatty matter.

Another case which he had hoped to show was that of a traumatic rupture of the membrana tympani. It was an elliptical opening behind the malleus, about half-way between the handle of the malleus and the posterior attachment of the membrane. On the edges of the gaping wound were little deposits of blood, and there shone there something intensely white, looking like a bead of very white muco-pus. In reality it was a promontory, which in the uninflamed condition was pale, so that they who generally saw it hyperæmic might not recognise it normally. The rupture was the result of a blow from the lady's husband. The opening was rapidly closing up, and he had hoped to show the patient, but handed round the drawing made by Dr. Mackintosh.

The PRESIDENT said, in reference to the case of atresia of the external meatus, there was no evidence that the appearance was that of a keloid. There did not seem much evidence as to how it began. It would be interesting to hear how Dr. Grant proposed to treat the case.

Dr. GRANT, in reply, said the patient would have cotton-wool plugs with dilute glycerine and carbolic acid, then wiped out and dried with plugs dipped in lead lotion, one of the most effective means of taking down chronic swellings of the meatal walls.

CORRIGENDUM.

Mr. WINGRAVE writes us that the Society's reporter made numerous errors in his paper on Cholesteatomatous Changes, etc., pp. 185, 186, April number. The really important error was the insertion, in line 6, p. 186, of the words, "With a granulation cyst underneath undergoing change," which words should be deleted by subscribers to the Journal.

AMERICAN OTOLOGICAL SOCIETY.

(From Vol. VII., Part I., of Transactions.)

July 19, 1898.

Dr. ARTHUR MATHEWSON, *President.*

Dr. GORHAM BACON. *Report of a Case of Mastoid Disease affecting both sides, and presenting Symptoms of an Intra-cranial Complication. Operation. Recovery.*

The patient was a boy four years of age, giving a history of a cold and complaining of earache. Four days later the pain in the left ear was severe, and on the following day the temperature went up to 104° F. It continued at this height that day and next, and was not less than 103° F. at any time. Dr. Bacon was then called in, and found there was a discharge from the left ear; it ached, and the mastoid of that side was painful on pressure. The drumhead was bulging and there was a small perforation. The right drumhead was also red and bulging, but not perforated. Both membranes were at once incised under chloroform.

The ears were douched frequently with a boric acid solution and the Leiter coil was applied to the left mastoid region. Although both ears discharged freely, the temperature remained elevated at night, and the patient was restless and dazed. Next day (March 6) the temperature was 104° F., and Dr. Bacon enlarged the incision in the left drumhead. The Leiter coil was applied over the right mastoid, which was now becoming involved, and the boracic douches continued. On March 8, after consulting with Drs. Jane-way and Gruening, it was decided to open the left mastoid cells. The contents of the mastoid process, consisting of softened bone and granulations, were entirely removed, and the sigmoid sinus was exposed by extending the incision. The outer wall of the sinus was thickened, pulsation was felt in it, but not seen; the wound was washed and packed with gauze. The temperature fell to 102° F. next day, but soon rose as high as before; accordingly the right mastoid was opened and treated like the left, the conditions being found the same, but more marked than on the left side; the sinus was less pinkish in colour.

After this last operation the temperature fell, and the boy made a rapid recovery. A culture was made, and pneumococci were found with a few streptococci. The difficulty in this case was to

decide how far the operation should be carried and when to do it. Dr. Bacon felt quite sure he had to deal with a case of sinus thrombosis before opening the mastoid cells, but as both mastoids were affected, it was impossible to tell whether a thrombus had involved the left sigmoid sinus, or the right, or both. He advised against inserting a hypodermic needle into the sinus in these cases unless absolutely necessary, for fear of carrying infective material into a vessel free from it. The needle is of little value in determining the presence of a thrombus, for one may exist even where fluid blood is withdrawn: a free incision is the only method to be relied upon. By opening both mastoids and exposing the sinuses, the latter could be explored, if need be, the following day, but though the inflammation had extended to the sinus walls, and a thrombus would undoubtedly have been formed, the symptoms were entirely due to the mastoid disease. Anxiety may be anticipated if cultures made early in the case show pneumococci and streptococci. Surgery carried out with strict antiseptic precautions should in such a case have a free hand. The Leiter coil is of little avail and, in fact, often only masks the symptoms.

Dr. GRUENING concurred as to the difficulties presented by this case. It was often a perplexing question, when the wall of the sinus was thickened, as to whether in addition there is a clot adherent to the inner surface; here a septic thrombus could not be demonstrated. He agreed that the introduction of a syringe was without any value whatever, and was dangerous.

Dr. SPRAGUE had recently had an almost parallel case in a child. There was a history of pyæmic symptoms, convulsions and vomiting, both drumheads were in a similar condition to those of Dr. Bacon's patient, and were treated on the same lines. The pyæmic symptoms subsided, but very temporarily, and returned with the characteristic temperature curve. The mastoid processes were opened, one four days later than the other, and both sinuses explored, one with a needle (which proved unsatisfactory) and the other (the right) with a bistoury; the blood was fluid. The symptoms improved for a week and then the child became unconscious; accordingly the dura was incised on the left side and the brain explored. No pus was found at the time, but it came freely from the cranial cavity through the left mastoid wound six hours later. The patient was making a good recovery.

Dr. KNAPP thought in these cases the most likely location of the pus was the bulb of the jugular vein.

Dr. BLAKE concurred. In a case of his—a man with double mastoid disease and burrowing of pus in the neck—the pus, when

followed to its source, was found on both sides in the region of the jugular bulb.

Dr. J. E. SHEPPARD. *Report of a Case of Thrombosis of the Lateral Sinus. Operation. Recovery.*

A young lady aged twenty, first seen May 16, 1898, in consultation with Dr. Ayres. Eighteen months previously she had suffered from frequent headaches, mostly frontal, with rise of temperature to 101° or higher; the cause of these had not been discovered. Ten days from present time, as a result of grippe, the patient was seized with severe left-sided earache, lasting three days, when discharge appeared, which lessened, but did not entirely relieve, the pain. Three days after the discharge began she had a chill, then two more, and then quite recently again two chills, the temperature ranging from 99° to $105\frac{2}{3}^{\circ}$. Her condition, on examination, was one of general weakness, with discharge from the ear. No external evidence of mastoid trouble, except tenderness posteriorly over the region of the emissary vein. A perforation whistle was obtained on inflation: temperature $105\frac{2}{3}^{\circ}$. A positive diagnosis of sinus disease was made from the temperature record taken hourly, and an operation was performed at once. A free incision was made in the membrana tympani; then the mastoid cells and antrum were thoroughly opened, and pus was found in the apex cells, in the deep cells along the meatus, and also far posteriorly. The sinus was then exposed for more than an inch, and its surface seemed thickly covered with pus. The whole wound was washed out with alcohol, and packed with 5 per cent. iodoform gauze wet with 1 per cent. carbolic solution. On May 18 (twenty-four hours after) the temperature fell to $100\frac{2}{3}^{\circ}$. Next day it rose to $103\frac{2}{3}^{\circ}$, and there was much pain in the head. At 3 p.m. on May 20 it reached $105\frac{2}{3}^{\circ}$, following a chill, which lasted half an hour. The wound was opened, and an incision $\frac{3}{4}$ of an inch in length made in the sinus. A large amount of thrombotic material, with some pus amongst it, was turned out; fluid blood flowed freely from above; the wound was cleansed and repacked. After the last note the temperature fell steadily to normal, and there remained for thirty hours, when it began to rise and increase through many fluctuations from so low as $97\frac{1}{3}^{\circ}$ to 106° F. The patient had frequent chills. The blood was examined, and showed an extreme degree of leucocytosis, but no plasmodium malarie. Dr. Browning saw the case, but failed to find any localizing cerebral symptoms. He reported both optic discs choked. Dr. Gruening coincided in the opinion that pus was forming in the

sinus. On June 6, seventeen days from the second operation, the left internal jugular was exposed and tied with its branches, and about $2\frac{1}{2}$ inches removed free from clot. The lateral sinus was then investigated through the original opening downward towards the bulb of the jugular, and a moderate amount of pus came away; then, with rongeur forceps, it was exposed upward and backward to within about 1 inch of the torcular, slit open to within $\frac{1}{3}$ of an inch of the bony opening, and a considerable amount of thrombotic material and pus was removed. Finally, a probe was passed well up into the torcular, followed by free hemorrhage, and the wound was closed. With the exception of one slight rise of temperature accompanying an escape of pus (probably from the sinus towards the bulb of the jugular), the temperature slowly fell after this, and the patient made a rapid recovery. In the pus was found staphylococcus, either *aureus* or *cereus flavus*. The early appearance of symptoms indicating intracranial involvement (the initial chill having occurred within six days of the beginning of earache and three days of the discharge) was remarkable in this case.

Dr. GRUENING remarked that subnormal temperature was not characteristic of malaria, as some supposed; he had observed it in cases of thrombosis, as here instanced. The papillæ showed a *bonâ fide* choked disc; he had never seen one so pronounced in thrombosis before.

Dr. FRYER remarked upon the presence of leucocytosis as an important diagnostic and prognostic point. Although a large amount of pus was forming in the body, if there were no reaction there was no leucocytosis; but where, as in Dr. Sheppard's case, the well-being of the patient was marked, leucocytosis always followed or accompanied the disease.

Dr. J. ORNE GREEN. *Caries into the Labyrinth, causing Abscess of the Cerebellum.*

An exhibition of three specimens of caries of the temporal bone, resulting from chronic tympanic suppuration of twenty, "many," and one and a half years' duration respectively. In all the fatal result was due to abscess in the antero-inferior portion of the cerebellum, infected through the labyrinth. The cerebellum was reached in two cases through the meatus internus, and in one through the aquæductus vestibuli. In all three specimens the tympanic wall of the vestibule was perforated by caries just above and behind the foramen ovale, and the external semicircular canal had been opened into.

Dr. CLARENCE J. BLAKE. *Blood-clot in Mastoid Operations.*

The first impulse to the series of observations which has now been continued during the past six years on the blood-clot dressing after mastoid operations came from a case of acute suppurative mastoiditis, in which the customary reopening of the wound at the first dressing was prevented by the occurrence of an erysipelas of the scalp and face, which ran its course in about ten days, and left the mastoid wound to heal by first intention. A number of cases followed in which the mastoid, after thorough evacuation, was allowed to fill with fresh blood, and the skin-wound apposed without sutures. The shortest period between operation and complete healing so far attained was four days. The possibility of avoiding the packing and dressing of mastoid wounds being thus proved, the question came as to the class of cases to which the method was applicable, and observations have been made upon all mastoid cases, including even chronic suppurations of the mastoid and middle ear, only excluding those in which the large extent of the field precluded them. The admissibility of this course appeared justifiable, even where primary healing could not be expected, because the unsutured wound, if giving evidence at any time of infection of the blood-clot, could be immediately opened painlessly with a blunt probe, and the wound treated in accordance with the conditions found. It has even been shown that it is quite possible for a blood-clot to remain intact in one part of the evacuated mastoid and become septic in another, primary external healing obtaining in the former situation, and breaking down, with consequent necessity for drainage and subsequent healing by granulations, in the latter. Thus, in two recent cases a sinus has been established spontaneously from the antrum to the lower portion of the external wound, the remaining portion of the blood-clot being apparently intact and covered in by the apposed lips of an incision healed by first intention.

Of twenty-five cases subjected to the blood-clot experiment in 1896-97, sixteen were so-called acute ones, and seven of these recovered by primary healing, and were discharged well in an average of ten days. In the nine remaining acute cases, and in nine chronic ones of long-continued suppuration with later mastoid implication, it was necessary to reopen the wound as above described, and allow it to heal by granulations.

Dr. SPRAGUE had tried this method in about ten cases. He always strove for union by first intention as far as possible, suturing at least the upper part of the wound, and inserting in the lower portion a lightly-rolled wick of gauze, one end of

which was inserted into the antrum. His results had been very satisfactory, and the healing method seemed much improved.

Dr. BACON had seen some of Dr. Blake's cases, and noted how well they had done. He had only tried the method in acute, never in chronic ones, though he had seen evidence of Dr. Blake's success with them also.

Dr. CROCKETT had long followed Dr. Blake's lead in the treatment of chronic cases, and he thought healing by first intention could be got in a large proportion of them. He never dressed a case till the fourth or fifth day, unless urged to by some special indication. The first dressing was very apt to be an occasion for infecting a case through neglect of antiseptic precautions, employed as a routine at the operation.

(To be continued.)

SEVENTIETH CONGRESS OF GERMAN SCIENTISTS AND PHYSICIANS—DEPARTMENT OF OTOTOLOGY.

First Sitting, September 19, 1898.

Monatschrift für Ohrenheilkunde, November, 1898.

President: Dr. BREITUNG (Coburg). *Secretary:* Dr. TEPPMANN.

Introducer: Dr. JÜRGENS.

I. Dr. JÜRGENS (Düsseldorf). *A Patient who had undergone the Radical Operation, with Separation of the Auricle and Cartilagino-membranous Meatus.*

A girl of seventeen had suffered since infancy from otorrhœa. There was destruction of the membrane, granulations in the tympanum, and a fistula leading to the antrum. The posterior wall of the meatus was carious, and the attic and antrum contained granulations and cholesteatoma. Stacke's operation was performed, and xeroform insufflations were used to hasten healing. The author advocates closure of the wound in the bone, especially in women.

Replying to Reinhard, Jürgens said the mesial wall was skinned over before operation.

II. Dr. BREITUNG (Coburg). *On Better Hearing in a Noise, and the Significance of this in the Pathology and Treatment of Chronic Progressive Deafness, in the Light of the Neuron Theory.*

Breitung puts forward the theory that in paracusis the power of differentiating sounds is diminished, whilst the sensibility to differences is rather increased, and he regards the condition as analogous to hemeralopia. He thinks that the factors that produce improve-

ment in paracusis are those that bring about a better contact of the neurons. In the way of treatment, he recommends his air-pump (worked by electro-motor). He considers it well adapted to produce artificially those conditions which cause the better hearing. The rapid vibration is not injurious.

Prof. SIEBENMANN (Bâle) thought everyone spoke louder in a noise. There was no anatomical evidence of nerve disease.

Prof. HARTMANN expressed himself in the same sense.

Dr. BREITUNG replied that Herr Siebenmann's explanation was disposed of by the fact that the better hearing outlasted the stimulation, often for days. As regards pathological anatomical evidence, he thought our present material was too scanty to allow of much importance being attached to it.

(Dr. Breitung's paper will be found in full in *Haug's Sammlung*.)

III. Prof. SIEBENMANN. *On a Modification of Körner's Proceeding in Cholesteatoma.*

In order to avoid stenosis of the meatus, he advises the use of a Y-shaped incision, the limbs of the Y pointing outwards. The meatus is thus divided into an upper, lower, and outer flap. The cartilage in the outer flap is removed, leaving only skin.

HARTMANN, SIEBENMANN, BREITUNG, JÜRGENS, and SCHMITZ took part in the discussion. They agreed generally that it was desirable to close the opening behind the ear.

IV. Dr. REINHARD (Duisburg). *Transplantation after Thiersch's Method in connection with the Mastoid Operation.*

He advises the transplantation of flaps, not at the time of operation, but at the second or third dressing. Bleeding is avoided, and nice adjustment is possible. The wound must be completely lined with flaps, overlapping each other like tiles on a roof. Protective is applied next the flaps, and moist gauze over all. The dressing is undisturbed for two to five days. Even if all the grafts do not take, the after-treatment is considerably shortened.

Second Sitting, September 20, 1898.

President: Prof. HARTMANN (Berlin).

I. Dr. JÜRGENS (Düsseldorf). *Resection of Middle Turbinal and gouging open the Frontal Sinus for Empyema.*

Polypi were first removed, then the middle turbinal, and, as access was still insufficient, the external operation was performed. Suppuration ceased in the frontal sinus, but the antrum became infected, so the alveolar opening was made. The patient died.

Post-mortem: Pleurisy, fatty heart, atherosclerosis of the aorta, catarrh of the stomach.

II. SIEBENMANN (Bâle). *A Case of Multiple Deposits of Spongy Bone in the Labyrinth Capsule, combined with the Clinical Signs of Nerve Deafness.*

The patient, a woman of fifty-two, suffered for years from progressive deafness, slight attacks of vertigo, and occasional earache. On examination, Siebenmann found great deafness, marked shortening of bone conduction, and positive Rinne. Eight days afterwards the patient died from ulcerative endocarditis. The post-mortem revealed multiple foci of spongy ossification in the labyrinth capsule—viz., in the semicircular canals, close to the fenestra ovalis and at the base of the cochlea. In addition, on one side there was partial bony ankylosis of the stapes, and on both sides exostoses on the floor of the internal meatus and on the inner surface of the frame of the fenestra ovalis. The author interprets this process as a displacement of the cartilage-holding, endochondral-formed bone by cartilage-free, spongy, connective-tissue bone, analogous to the spongy ossification occurring in other parts of the skeleton in later life. As the membranous labyrinth and the nerve were quite normal on both sides, and on one side the annular ligament also, the deafness must have been due—at least, in the latter case—to the change undergone by the perilymph in chemical composition and density, owing to communication with the large lymph-spaces of the new-formed bone. The sudden giving way of their bony partitions probably explained the symptoms of Ménière's disease. Preparations were shown from the case described and from two others. Local treatment was deprecated. Internally emulsion of phosphorus was recommended.

III. Dr. KEIMER (Düsseldorf). *Radical Operation, with Resection of Cartilage and Plastic Operation on the Meatus.*

He splits the posterior upper wall of the membranous meatus at the level of the bony roof, the incision extending into the concha. A second vertical cut extends downwards from the outer end of the first. As much as is necessary of the concha is then removed, and the flap is thinned so as to leave, if possible, only skin. The flap is plugged into the cavity from below, and fixed with a thick rubber drain. The wound behind the ear is stitched. Stitches are removed at the first dressing on the fourth day. After three weeks the rubber drain is removed, and airol gauze tampons substituted. With care in after-treatment, healing is generally complete in eight to twelve weeks. The opening of the meatus is as big as

an average index-finger, and the whole cavity can be well seen. Three successful cases shown in illustration.

KEIMER also described a *Case of Temporo-sphenoidal Abscess in which the Patient was Monophasic*, and could only utter the name of the street in which she lived. A wineglassful of fœtid pus was evacuated, and the patient recovered.

IV. Prof. HANSBERG (Dortmund). *Two Cases of Cerebellar Abscess from Otitis.*

(1) A boy of twelve with otorrhœa of eighteen months' duration began to suffer from headache, vertigo, and vomiting, and was brought unconscious into hospital. His neck was rigid, and he was very restless; the mastoid was tender, and he winced when the left side of his head was palpated. Operation. The mastoid was carious; a fistula led to the sigmoid sinus, which was discoloured, but not thrombosed. There was a large extradural abscess of the posterior fossa. The sinus bled freely, and the operation was abandoned. Second operation four days later. The posterior part of the mastoid was removed after exposure of the middle-ear spaces and the evacuation of a large mesial abscess in the cerebellum, which extended backwards for 4 cm. Healing confirmed thirteen months later.

(2) A man of twenty-two, who had suffered since childhood from otorrhœa, was seized with vomiting, dizziness, and occipital headache, but no fever. Nine days later there was somnolence and prostration; difference in the pupils, left-sided ptosis, conjugate deviations of the eyes to the left, rigidity of the neck, Cheyne-Stokes breathing, and small irregular pulse. Operation was attempted under an anæsthetic, but the patient died in about twenty minutes, apparently asphyxiated.

Post-mortem.—A large abscess had destroyed almost the entire right hemisphere of the cerebellum, and was extensively adherent to the sinus. There was free communication between the sinus and the abscess cavity, and the ends of the sinus were thrombosed. There was no fistula leading to the mastoid, and no change in the labyrinth.

DISCUSSION.

Dr. BREITUNG (Coburg) thought operation useless when Cheyne-Stokes breathing was present.

Dr. RÖPKE (Solingen), speaking of temporo-sphenoidal abscess, said his inquiries led him to believe that some cases published as cures afterwards ended fatally.

Prof. HARTMANN (Berlin) described a fatal case of cerebellar abscess in which he had operated.

Prof. HANSBERG remarked that the case was a desperate one, and would certainly have died if left alone. He thought those cases most hopeful in which one was able to follow up the abscess from its point of origin.

V. Dr. L. STERN. *A Case of Living Maggots in both Ears.*

Over forty were removed from the right and twenty-three from the left ear. The patient only remembered one fly getting into his ear. A complete fly was removed from one ear, and from the other the thoracic segments and innumerable eggs.

VI. Dr. KAYSER (Breslau). *On Dysphonic Nervous Cough.* ("Monats. für Ohrenh.," November, 1898.)

"Dysphonic" refers to the acoustic quality of the sound. Any ordinary cough is euphonic; but a disturbing, annoying, insufferable cough is dysphonic. Schrötter graphically describes one variety as the "fire-signal cough."

In the following case Kayser observed the mechanism by which the peculiar sound was produced. A girl of eleven suffered from a cough which had lately assumed a peculiar character. Every few minutes she coughed, and the cough had such a piercing, trumpet-like note that she had had to leave school, and the people in the house where she lived said they couldn't stand it any longer!

The girl was otherwise healthy; the cough ceased at night. On inspection the lingual tonsil was seen to be decidedly enlarged, and from the right half of it a yellow distended follicle projected. This part was sensitive; touching it at once caused the characteristic cough.

On looking with the laryngoscope while the sensitive spot was touched, it was observed that the epiglottis sank downwards and backwards over the entrance of the larynx, and during the act of coughing could be seen to vibrate.

When the girl coughed voluntarily the same thing happened. When the epiglottis was raised and held up, by placing a Reichert's spatula in the glosso-epiglottic fossæ, it was found that the cough at once lost its trumpet note and became an ordinary cough. After this manœuvre had been repeated several times it was no longer necessary to hold up the epiglottis—it remained up of itself, and the child could cough naturally. The enlarged follicle and hyperæsthetic area on the lingual tonsil were cauterized, and the cough disappeared entirely.

Kayser succeeded in reproducing the trumpet note in an excised larynx by pressing the epiglottis downwards and backwards upon the entrance of the larynx, while he blew vigorously from below with a bellows tied in the trachea. The edges of the epiglottis and the ary-epiglottic folds were thrown into vibration.

This was clearly a case of nervous cough, the irritation starting from the hyperæsthetic spot in the lingual tonsil. The depression of the epiglottis was an abnormal associated movement resulting from overflow of nervous energy. By frequent repetition such movements become inseparably connected with voluntary movements, as in this case. V. Schrötter speaks of it as chorea laryngis.

WILLIAM LAMB.

Abstracts.

MOUTH, Etc.

Dr. W. Lublinski.—*Suppurative Inflammation of the Glosso-epiglottic Fossa (Angina Præepiglottica Phlegmonosa)*. "Deutsche Medicinische Wochenschrift," No. 8, 1899.

Caz reported a case in "Archiv. für Laryngologie," vol. viii., part ii. Lublinski has seen three cases. At first there was discomfort on swallowing and dryness at the affected part, which increased with depression towards evening, disinclination for work, loss of appetite, fever. Swallowing became very disagreeable, with pain in the ear. Pain was increased by hawking up the accumulated saliva and mucus. Speech was like that in phlegmonous tonsillitis.

The pharynx and tonsils were free from inflammation; the tongue and lingual tonsil were normal. Unilateral inflammation of it, going on to suppuration, may occur, and shows the same symptoms as inflammation of the glosso-epiglottic fossa. Diagnosis is impossible without a mirror. If the lingual tonsil is swollen, it lies against the epiglottis and obscures the fossa; in angina præ-epiglottica phlegmonosa it is filled up with a grayish-red shining tumour, which is intensely painful on probing and feels pasty. The swelling only comes a little forward, becomes more and more raised, and shows fluctuation. It lies on one side close against the lingual tonsil, on the other against the epiglottis, which does not resist the pressure, and is forced over the laryngeal entrance. At the same time, the anterior surface of the epiglottis is seen to be swollen, its free edge on the affected side is thickened, and its mobility is interfered with. There was no œdema of the laryngeal rim or its interior, as in submucous suppurative inflammation of the epiglottis. The left side alone was affected in all three cases.

Laryngeal examination is difficult, but by drawing the epiglottis slightly to the right, it was seen that neither the left arytenoid nor the aryepiglottidean fold was affected. Spontaneous evacuation does not occur easily. Interference with respiration might occasion tracheotomy.

Guild.

Richards, G. L.—*The Technique of Tonsillotomy.* "Charlotte Med. Journ.," October, 1898.

When hæmorrhage occurs after tonsillotomy, all the usual hæmostatics are nasty and unsatisfactory, except hot water and ice. If there is simply persistent oozing, use a gargle of a 25 per cent. solution of peroxide of hydrogen in hot water. If this is insufficient, soak a pledget of cotton in pure peroxide and apply pressure directly to the cut surface of the tonsil. If there is spurting of blood, wipe the surface quickly with a bit of cotton and seize the bleeding-point with long-handled hæmostatic forceps. Should no hæmostat be at hand, pressure of a piece of cotton under the thumb with the corresponding finger on the vessels of the neck will usually suffice to quickly stop the bleeding.

Middlemass Hunt.

N O S E.

Ball, James B.—*The Indications for Operation in Cases of Adenoid Vegetations of the Naso-pharynx.* "The Clinical Journal," December 28, 1898.

Any one of the following conditions constitutes an indication for operation: (1) Habitual mouth-breathing in a child, which has been going on for a considerable period and shows no sign of improvement. (2) Noisy, laboured breathing, or suffocative attacks at night, especially in young children, even though not habitual mouth-breathers in the day. (3) If a child is deaf, or subject to attacks of deafness or earache, or has a chronic otorrhœa. (4) Repeated attacks of bronchitis, or the presence of asthmatic symptoms. (5) A persistent cough without bronchial symptoms. (6) Repeated colds in the head of a severe and prolonged character, or a chronic nasal catarrh, or purulent rhinitis not yielding to simple treatment. (7) Paroxysmal sneezing and hay-fever symptoms. (8) In nocturnal enuresis, chorea, and epilepsy, although none of the foregoing indications are present, operation may sometimes be done, rather to remove all possible sources of irritation than with any distinct promise of benefit.

Middlemass Hunt.

Brown.—*Bleeding Polyp of the Nasal Septum.* The "Laryngoscope," March, 1899.

The author reports a case of daily epistaxis due to a polyp as large as a pea attached to the anterior part of the septum by a small pedicle. The growth was snared and the base cauterized.

R. M. Fenn.

Fisher, J. H.—*A Case of Diffuse Cellulitis of the Orbit, secondary to Empyema of an Ethmoidal Air-Cell.* "St. Thomas's Hospital Reports," 1897.

Despite a statement by Caldwell in the *Medical Record* for 1893 that "numerous cases are recorded of orbital periostitis and cellulitis from extension or infection from purulent ethmoiditis," Fisher is only able to find one authentic case recorded.

The present case is one of a labourer, aged seventeen, who came to St. Thomas's Hospital with a brawny hard swelling and dusky-red discoloration of the upper lid of the left eye and marked proptosis, the globe being displaced downwards, forwards, and slightly outwards.

There was a doubtful history of a small discharging abscess in the left upper lid three years before, and the boy was suspected to be suffering from congenital syphilis.

The boy was at once admitted, and a deep incision was made in the orbit through the upper lid. Some pus was evacuated, and a drainage-tube inserted. Instead of improving, however, there was no diminution in the proptosis; the upper lid appeared about to slough, and the boy became drowsy, with severe pain in the head, and the pulse was slowed. The depth of the orbit was again incised; no pus was observed, but there was some improvement.

Five days after the first operation a sinus formed spontaneously from the depth of the orbit, with an orifice in the skin near the inner canthus. The proptosis at once became less, and there was general improvement; but as the sinus failed to heal, it was enlarged and explored. It was found to lead down to bare bone, and one or two holes leading into the ethmoidal cells. Through one of these a probe and then a drainage-tube was passed into the left nostril, and the cavity drained through the nose. The case then did well. The maxillary antra and the frontal sinuses were transilluminated, with negative results.

Atwood Thorne.

Grossman, F. (Berlin).—*Contribution to the Pathological Histology of the Antrum of Highmore.* "Archiv für Laryngologie und Rhinologie," Bd. viii., Heft 2.

In examining polypoid vegetations removed from the antrum of a patient operated upon for empyema, the author stained some sections according to Gram's method, but could find neither staphylococci nor streptococci. On the other hand, numerous dark blue globules of all sizes were brought into view, which he at length proved to be the hyaline bodies lately described by Hansemann. These bodies have been met with by Seifert and Polyak in hypertrophied nasal mucous membrane, but mention of their presence in the antrum has been made by Lubarsch only. They lie in the subepithelial layer, which is markedly infiltrated with round cells, while in the deeper, more œdematous parts they appear only singly. Between the epithelial cells they are rarely found. Their size varies from the smallest forms—which, however, are always somewhat larger than staphylococci—to considerable globules or rather discs, their true shape being discoid.

The proliferating cells of the subepithelial layer of the mucous membrane are often seen to contain small, red-coloured globules which push the nucleus to the side. Sometimes single cells are enlarged, the plasma being coloured red. These appearances indicate that the proliferating cells have to do with the formation of the fuchsin bodies, and the author therefore does not agree with Seifert and Polyak, who regard them as resulting from a colloid metamorphosis of infiltrated round cells. Other theories of origin are referred to. *A. B. Kelly.*

Hajek, Dr. M.—*Headache in Diseases of the Nose and Accessory Sinuses.* "Munchener Medicinische Wochenschrift," No. 10, 1899.

Headache is frequent in the course of these diseases. It either depends directly on the nasal disease, and disappears with its cure, or the nasal condition predisposes to headache. Apart from ulcerative processes, two affections of the nose come under consideration, disease of the accessory sinuses and hypertrophic changes of the nasal mucous membrane. The former, acute and chronic, are more frequent and of

more importance. In disease of the accessory sinuses, headache may be of neuralgic nature or of an indefinite character (frontal, vertical, feeling of pressure or numbness), or, according to some authors, hemicrania. The former occurs mostly in acute, the latter in chronic, disease. The neuralgic pains in acute empyema of the antrum or frontal sinus may be in the infra-orbital, superior-dental, or supra-orbital nerve. They last the whole day, or become more acute at certain times. In disease of the antrum neuralgic pains are not so typical as in that of the frontal sinus; in the latter in the acute stage pain is intense.

Supra-orbital neuralgia in empyæma of the antrum may be due to an overlooked sinus affection or abnormal division of the trigeminus.

Headache is sometimes absent in chronic empyæma, in spite of marked implication of the antral mucous membrane, less frequently in empyema of the frontal sinus, or headache may be the dominating symptom. In the cases where it is absent it may occur when the condition is aggravated by coryza, mental or physical disturbances, or abuse of alcohol. General examination should never be neglected, especially where an empyæma has been treated. According to his experience, there is no etiological connection between empyæma and hemicrania.

In conclusion, he refers to hypertrophic processes which produce many forms of headache (peculiar heaviness in the head, inaptitude for mental work, etc.). Simple hypertrophies are seldom the cause of headache. An exception is a form where the tuberculum septi is enlarged and takes on a dense character; if, in addition, the middle turbinate is hypertrophied, so that it presses on the opposite wall of the olfactory fissure, the patients complain of heaviness in the head and pressure at the root of the nose. Guild.

Halasz.—*On the Application of Hydrogen Peroxide in Rhinology and Otology.* "Wien. Klin. Rundsch.," No. 42, 1898.

The author recommends hydrogen peroxide as a very good remedy in chronic suppurations of the middle ear; also for operations on polyp of the nose as a very good styptic. R. Sachs.

Halasz.—*Sinusitis Maxillaris Serosa.* "Wien. Klin. Rundsch.," No. 46, 1898.

Report on ten cases of sinusitis maxillaris serosa. The symptoms are nearly the same as in empyema of the antrum. Sometimes the patients complained only about neuralgia, supra- or infra-orbital, or coryza. Even in cases where the patients only complained of obstruction of the nose, without other symptoms, the author recommends a puncture of the antrum through the meat. nas. inf. and aspiration of the serous liquid in the antrum. R. Sachs.

Hellat.—*Adenoids in Adults.* "Petersb. Med. Woch.," Nos. 25, 26, 1898.

Report on some cases, between eighteen to thirty-five years of age, with symptoms of adenoids. Operation with modified Gottstein. The author says that in a great many cases of patients over twenty years there are adenoids which must be operated upon. R. Sachs.

Kuyk.—*The Influence of Nasal Occlusion over Cerebration.* The "Laryngoscope," March, 1899.

After mentioning the effect of obstructed respiration in children, the author refers to the lack of appreciation by many medical men of

the anatomical and physiological importance of the nose and of the possible results of nasal disease. Many of the accessory cavities are in very close relation to the brain. The author gives the symptoms due to acute coryza, and describes the following as due to chronic nasal occlusion: More or less constant torturing headaches, constant dryness of the mouth and throat, asthmatic symptoms caused by the tongue falling back during sleep, and fatigue and shortness of breath caused by active exercise. Lack of oxygenation and mental distress weaken the system; fugitive pains are felt, causing the patients to become morbid. The mental condition is first a temporary confusion of ideas and then mental apathy. Such patients are thin, anæmic, weak, nervous, and probably hysterical, and require tonics, removal of offending growths and hypertrophies, and positive mental suggestion.

The first case was aged forty-nine, and had the appearance of mental disturbance. He complained much of nasal discharge entering the throat, blocking of the nose (for two years), shortness of breath, pain in the head, and a feeling that he was going crazy.

Examination revealed dense hypertrophy of both middle and inferior turbinates, muco-purulent secretion in the pharynx, and evident disease of both antra and of the frontal sinuses. He denied syphilis. The nose and pharynx were cleansed on two occasions, but the second night the patient, in despondency, committed suicide.

The second case is that of a railroad engineer, aged forty-seven; for fifteen months suffering with constant headache. Complained of stoppage of nostrils and nasal discharge, specially into the throat, preventing sleep and causing nausea and vomiting; appetite lost; reduced in flesh and strength; had become nervous and irritable; was hoarse and quickly out of breath. Failing memory made him renounce work. Expression showed mental disturbance; tremulousness of hands, head, and tongue. Had had syphilis twenty-five years ago. Both nostrils so occluded by hypertrophy of middle and inferior turbinated bodies that no air could be forced through. Pharynx covered with tenacious mucus; lingual tonsil much enlarged. On right vocal band anteriorly there was a papilloma. Anti-specifics produced no result. Improvement began quickly on removing nasal hypertrophies. In three weeks he returned to work free from pain, mental aberration, or other discomfort.

The third case is that of a merchant, aged thirty-eight, who complained of stoppage of the nostrils for three years (complete one year) with usual accompanying symptoms. He had become so nervous and irritable that he contemplated giving up business and seeking a beneficial climate. He had a very large polyp in the left nostril, and hypertrophy of the right middle and inferior turbinated bodies. After the removal of all offending masses, and treatment with valerianate of quinine, iron, and zinc, he was comparatively well in three weeks.

R. M. Fenn.

Röpke (Solingen).—*The Radical Operation in Chronic Catarrhs and Suppurations of the Upper Accessory Cavities of the Nose.* "Archiv für Laryngologie und Rhinologie," Bd. VIII., Heft 2.

The author briefly sketches the recent history of the subject, and describes the operations that have been proposed.

He has employed Kuhnt's method, which consists in making an incision along the inner two-thirds of the supraorbital margin, and another vertical close to the middle line; the flap of skin and

periosteum is raised, and the whole anterior wall of the sinus is removed. This allows of the thorough removal of the lining membrane. The flap is replaced and sutured, excepting for a short distance at the inner end, where a drain is introduced.

In the author's experience the ethmoid is usually affected in these cases, and in performing a radical operation on the frontal sinus provision must also be made for clearing out the ethmoidal cells.

The objection to the operations hitherto proposed is that they do not sufficiently take into account the ethmoid, hence the author has modified Kuhn's operation, so that after removing the lining membrane of the frontal sinus, he makes a wide passage from the floor of the sinus to the ethmoidal cells, and clears them out as far as is necessary. The opening is then packed with iodoform gauze, an end emerging at the inner extremity of the eyebrow.

If both frontal sinuses are affected the horizontal incision is carried to the outer third of the supraorbital margin on both sides, and the vertical incision is made in the middle line. The flaps are reflected, and the entire anterior wall of both frontal sinuses together with the septum are removed. The prominent pars nasalis of the frontal bone is also taken away, so that after the flaps are stitched in place a good cosmetic result is obtained.

The author has operated on twelve patients, of whom eleven suffered also from ethmoidal disease. In six the frontal sinus affection was bilateral, and in two of these the ethmoid was diseased on both sides. Suppuration of the antrum was present in five instances, once bilateral, associated with bilateral frontal sinus disease, twice on the same side as the affected frontal sinus, and twice on the other side. In nine cases polypoid vegetations or mucous polypi were present in the middle meatus of the diseased side. In six cases there was atrophic rhinitis. The disease had been present in all the cases for several years. In three instances influenza was the cause, in two acute rhinitis, and in one typhus, pneumonia, and an injury, respectively. In four cases the etiology could not be determined.

The chief symptom was pain in the neighbourhood of the affected sinus and behind the eye. All the patients, with one exception, complained of nasal obstruction and discharge. Six suffered from giddiness; four from nausea; one had fainting fits; three complained of temporary double vision and a tired feeling in the eyes.

In every case there was tenderness on pressing on the anterior, and especially on the lower wall of the sinus; in two cases there was distension, and in two œdema at the upper and inner angle of the eye.

In forming a diagnosis the frontal sinus probe is indispensable. The author succeeds in introducing this at the first examination, in most cases "because the passages are much widened by the long suppuration." Having succeeded in probing the sinus, a cannula should next be used and the cavity washed; the presence of pus in the washings makes the diagnosis fairly certain.

Before operating the author removes all the accessible granulations in the middle meatus.

In seven cases the sinuses were found at the operation abnormally large; in four not enlarged; in one it consisted merely of a small displaced ethmoidal cell.

The contents of the diseased cavity were purulent in nine cases, muco-purulent in two, and mucous in one. The lining membrane in all cases was thickened, discoloured, and covered with granulations.

The naso-frontal duct was very wide in six cases; in two it was made up of two passages. In two cases of bilateral suppuration it was narrow on one side.

In three cases the duct opened into a closed chamber of the frontal sinus. Besides these formations on the floor of the sinus, a complete division of the cavity into different compartments, which communicated merely by small perforations in thin septa, was found in other three cases.

The septum between the frontal sinuses in the six cases of bilateral frontal sinus disease was perforated in four instances. Caries was observed only once, and then involved the inner and lower walls; twice the posterior wall was somewhat discoloured and rough, in several cases the bone was bare.

The following complications were noted: Conjunctivitis in several cases; asthenopia in three cases; slight hyperæmia of the papilla on the affected side in two cases. In some cases the eyeball was tender on pressure.

Of the twelve cases seven healed by first intention. In two of these the whole wound was stitched; in the other five the tampon was removed dry after three to five days and not renewed.

In the other five patients a considerable secretion set in sooner or later, requiring the wound to be cleaned daily. The infection in two of the patients was due to the removal of the bandage without permission, while in three it proceeded from the ethmoid. The onset was always marked by a rise in temperature. The inner and upper angle of the eye was painful and tender on pressure, and the general condition disturbed. But even in those cases the course of which was not quite favourable the secretion ceased after eight or ten days. Only in one case there was a small amount of secretion from a tiny fistula two months after operation.

Three patients complained of double vision after removal of the bandage. This was due to paresis of the oblique, and passed off in from ten to fifteen days.

The cosmetic result was good in eleven cases; only in one was there marked depression, the sinuses in this instance having been abnormally large and deep.

It was still impossible to state whether there would be recurrence in any of the patients.

A. B. Kelly.

Wells, W. A.—*Epilepsy Dependent on Intra-nasal Disease.* "Charlotte Med. Journ.," December, 1898.

The patient, a man, aged forty-four, had suffered for ten years from typical epileptic seizures, on an average once a week, and always brought on by the least cold in the head. He had polypus in right nasal fossa, and abscess of antrum on same side. When last seen, two months after removal of polypus and opening of antrum, he had only had one epileptic attack, and that very light. For the ten years previous he had never gone longer than two weeks without an attack.

Middlemass Hunt.

Zur-Muhlen, v.—*Case of Empyema of the Sinus Frontalis.* "Petersb. Med. Woch.," No. 42, 1898.

Demonstration of a patient in whom radical operation was performed. Muhlen recommends this method as the only remedy.

R. Sachs.

LARYNX.

Ebstein.—*Case of Syphilis Hereditar. of the Pharynx and Larynx*
 "Wien. Klin. Rundsch.," No. 48, 1898.

Child, eight years old; signs of cured keratitis. Saddle nose; maxill. super. sunk in; cicatrices of rhagades in the mouth. Ulcers on pharynx and epiglottis. The right arytenoid cartilage swollen and also ulcerated.

R. Sachs.

Herr Brauer. (Naturhistorisch Medicinisches Verein, Heidelberg).—*Pedunculated Intratracheal Tumour, causing an Inspiratory Clapping Sound.* "Munchener Medicinische Wochenschrift," No. 6, 1899.

A woman of forty-eight had for three years felt something in her throat flapping upwards and downwards with respiration; latterly there was increasing dyspnœa. There is to be heard on respiration, both in the neck and over the lungs, immediately after the beginning of inspiration, a short clapping sound, which is propagated from the laryngeal region, and which laryngoscopic examination shows to be due to a pedunculated tumour on the tracheal wall. The tumour encroaches on a large part of the tracheal lumen. It is pedunculated, and springs from the first tracheal ring. It was removed by tracheotomy, and microscopic examination showed it to be an angio-sarcoma, apparently a fibroma undergoing sarcomatous degeneration.

Guild.

Lambert, W. W. (Kamloops, B.C.).—*Sixteen Cases of Serum-Treated Diphtheria.* "Montreal Medical Journal," March, 1899.

In all these cases the writer appears to have depended entirely upon serum-therapy for treatment, for there is no mention in his article of any other treatment whatever. Fortunately, all the cases recovered but one. In this case the patient, aged fourteen months, did not come under treatment until the sixth day, and notwithstanding that he administered by injection 12,500 units of antitoxin in three doses, the child died (!).

The other fifteen cases were all between the ages of seven years and fifty years. All were treated early, only two being as late as the third day. The largest amount of antitoxin given to any of them was 5,000 units, to a boy aged twelve years. All were cured between the periods of six hours and four days, and in no case was there a sequel of post-diphtheritic paralysis or nephritis.

Five of the cases are reported as "diphtheria and scarlet fever," and eleven as "diphtheria."

Bacteriological examination is not mentioned (?), neither is the Klebs-Loeffler bacillus referred to in the article (?).

Speaking of serum treatment, Lambert says that it has no unpleasant or harmful effect upon the system, and should be used fearlessly. He claims that it is of great value in diagnosis, and is so certain in its action, that should diphtheria be present, the symptoms will ameliorate; while if no effect be produced, the case will be scarlet fever or ordinary tonsillitis. He says, also, that the injection should not be made in the arm, as it will be followed by local dermatitis or urticaria.

Price-Brown.

Weber, F. P.—*Case of Dysarthria and Delay in Learning to Speak following Cerebral Disturbance in Infancy.* "Roy. Med. Chir. Soc.," April 25, 1899.

The patient, who belongs to a healthy family, is now seven years old. The history is that at two years of age he was just learning to speak like other children, when he was attacked by some acute disease with cerebral symptoms. This illness left him unable to speak, but apparently unaffected in other ways. When seen at five years of age he was able to utter peculiar sounds, doubtless an attempt at articulate language. He was physically fairly well developed, could hear well, understand what was said to him, and appeared to be of average intelligence. He then gradually began to speak, though with obvious difficulty in getting the sounds out, and with great defects in pronunciation, dropping the consonants at the end of most words, and replacing the sounds of *K*, *G* (hard or soft), *Ch*, and *S* by a *D*-sound or *T*-sound. Such "lalling"-like defects, together with stammering, rendered his speech most imperfect. He could recognise single figures and the letters of the alphabet, but could hardly recognise even short words when shown them on paper. He sometimes made mistakes in writing his own Christian name, although he had doubtless been repeatedly drilled at it. He could not recognise his name when shown it in printed characters. He seemed, in fact, almost word-blind. Such was his condition at the age of seven, when seen in January, 1899. He is now making rapid progress in pronunciation.

The condition may best be accounted for by supposing that the infantile illness injured the cortex of both cerebral hemispheres, chiefly affecting the speech-centres (parts concerned in some of the most highly-differentiated functions of the brain). The present case and similar cases differ from the typical ones of cerebral diplegia, with bulbar (pseudo-bulbar) symptoms, in the fact that the movements of the palate and the mechanism of swallowing are not in the least affected.

The speech defect in this case, as in other similar cases, is probably a minor form of what has been described as "idio-glossia" by Hale White and Golding-Bird, and for which F. Taylor has suggested the terms "idio-arthritis" or "idio-phasia."

A practical point in regard to the present case and similar cases is that the speech-centres, although damaged by some early disease, seem, nevertheless, capable of ultimate fairly normal development. This is confirmed in the present instance by the rapid progress which the boy is making since real trouble has been taken in teaching him by the oral and other methods.

THYROID, Etc.

Baurowicz, A. (Cracow).—*Thyroid Gland Tumours in the Interior of the Larynx, Trachea, and Bronchi.* "Archiv für Laryngologie und Rhinologie," Bd. viii., Heft 2.

The first reference to a tumour of thyroid gland tissue causing stenosis of the lower part of the larynx was made by Ziemssen in 1875. The patient was a man, aged thirty, who had complained of difficulty in breathing for some weeks. The laryngoscope revealed nothing of importance, and, as he had a moderately large struma, compression of the trachea was suspected. Owing to suffocative

attacks, tracheotomy had to be performed. Erysipelas afterwards set in, and caused the patient's death. At the post-mortem examination a cylindrical tumour was found in the larynx, extending downwards on the left side from the middle of the cricoid cartilage. It was 2 cm. long and 1 cm. thick, and presented a smooth surface. It consisted of thyroid gland tissue. Ziemssen supposed that the struma had grown into the larynx between the cricoid and thyroid cartilages.

In 1878 Bruns published two additional cases. The first was aged thirty-two years, and had suffered since his seventeenth year from dyspnœa, which recently had increased. The lumen of the larynx beneath the vocal cords was almost entirely filled by a smooth hemispherical tumour, which was attached to the right lateral wall and a part of the posterior wall. The growth extended from the fourth tracheal ring to beneath the right vocal cord. Bruns did not consider that the tumour had grown into the air-passages, for the rest of the thyroid was not much enlarged, and there was no perforation of the wall. He thought that a small lobe had been separated by constriction during development.

Bruns's second patient was aged fifteen, and had suffered from gradually increasing difficulty in breathing for three years. There was no enlargement of the thyroid; the voice was normal. The laryngoscope disclosed a tumour beneath the glottis, situated on the right and posterior wall, and occupying about two-thirds of the lumen. It had a broad attachment and a nodular surface. Laryngo-tracheotomy showed that the tumour extended from the second ring of the trachea to beneath the right vocal cord.

The fourth case was described by Heise in 1888. The patient was aged twenty-six, and had complained of dyspnœa for five years. The thyroid gland was not enlarged. The growth, which was as large as a hazel-nut, sprang from the left and posterior part of the trachea. Tracheotomy was performed, and the tumour was then found to extend 5 cm. downwards from the first ring.

A short time afterwards Bruns referred to another case which had been discovered by Roth in the course of a necropsy. A dense growth as large as a pea was found beneath the plate of the cricoid. Roth regarded the tumour as a congenital displacement of thyroid gland tissue.

In 1888 Radestock reported the case of a woman aged twenty-one, at the entrance to whose right bronchus a growth was discovered at the post-mortem examination. It was rounded, as large as a hazel-nut, and completely closed the bronchus. Its structure corresponded to that of the thyroid gland, with colloid degeneration. The thyroid gland itself was not markedly enlarged, and, as no connection was found between it and the tumour, the latter was regarded by the author as a separate struma.

In 1892 Palttauf reported a case based on clinical and post-mortem observation. The patient, a girl aged nineteen, had complained of difficulty in breathing for about four weeks. This had rapidly increased, so that tracheotomy became necessary. Some days later the laryngoscope disclosed a cylindrical red tumour beneath the right vocal cord. Anti-syphilitic treatment produced no improvement. The stenosis was also treated by dilatation for a considerable time without benefit. Finally, an abscess formed in the left lobe of the thyroid gland, and led to the patient's death. The growth was as large as a bean, and extended downwards from the lower edge of the thyroid cartilage.

The author reports the following case: He was consulted by a woman aged twenty-one, who wore a cannula, and presented on the left side of the neck a scar running along the anterior edge of the sterno-mastoid. About four months previously the patient had been operated upon. The trouble was of a year's duration. At the onset she noticed a growth on the left side of the neck. Six months later this was associated with difficulty in breathing, which increased greatly in the weeks preceding the operation. Laryngoscopy showed the left vocal cord perfectly stationary in the middle line. The obstruction was situated above the cannula, and consisted of a tumour seated on the left lateral and posterior wall, which filled the lumen of the lower part of the larynx, extending down to the tracheotomy wound. It was smooth, elastic, red, and covered by unaltered mucous membrane. The fact that a struma had been previously present in the left side allowed of the assumption that the tumour was of a goitrous nature. From the wound in the trachea an incision was carried upwards, dividing four tracheal rings and the cricoid. The growth was now found to measure $2\frac{1}{2}$ cm. in length and $1\frac{1}{2}$ cm. at its thickest part. Having been removed, the wound within the trachea was examined, and a brownish-red parenchyma, which is so characteristic of the thyroid gland, was seen in the spaces between the tracheal rings. The growth, therefore, had not been removed from its base. The microscopic examination fully confirmed the diagnosis of a thyroid gland tumour.

The author discusses the mode of origin of these tumours. In his opinion they grow from without. In Radestock's case, in which there is the suggestion of an intra-tracheal accessory thyroid, the growth was really an adenoma.

Leaving Roth's and Radestock's cases out of account, there are six on record. From these we see that the thyroid gland tumours are always seated in the lateral and posterior walls in the lower section of the larynx and upper part of the trachea. Their size varies; they are usually cylindrical; they have an extensive attachment; they are covered by unaltered mucous membrane; and, as a rule, are smooth, but may be nodular. They occur mostly in young persons. In four of these six cases there was an enlarged thyroid gland.

In making a differential diagnosis, the benign tumours have to be taken into account—*e.g.*, fibromas, papillomas, adenomas, enchondromas, and lymphomas. The presence of an enlarged thyroid is of help. Perichondritis of the cricoid must also be excluded. Of malignant growths, sarcomas are the commonest, but carcinoma may also present a similar appearance.

The prognosis is very favourable, as these tumours apparently do not tend to recur. Owing to their extensive attachment beneath the glottis, it is possible to remove them only by tracheotomy or laryngo-tracheotomy.

In a postscript the author mentions another case that has recently been published by Bruns.

A. B. Kelly.

E A R.

Alt.—*Demonstration of Two Cases of Cured Thrombosis of the Sinus Transv.* "Wien. Klin. Rundsch.," No. 49, 1898.

One ought always to notice in these cases the stiffness of the neck; painfulness only on one side, and also rotations of the head are only painful to one side.

R. Sachs.

Dunn.—*A Case of Feeding in Suppurative Otitis Media.* The "Laryngoscope," February, 1899.

J. H.—, aged ten, consulted the author for thin serous profuse discharge, with very little pus, from the right ear, following two nights of pain.

A large perforation was found in the posterior-inferior quadrant. There was only moderate redness. The patient was anæmic and poorly nourished. The night after the second sitting there was pain in the left ear, followed by a similar condition to that in the right ear. For ten days the middle ears were cleansed thoroughly and also the nose and naso-pharynx, and all the best antiseptics were applied, but there was no change in the quantity and character of the discharge. The author then, every two or three hours, injected a few drops of beef-juice after cleansing the ears. There was an immediate change for the better, and the case was dismissed in four days, cured. The author affirms that the cure was due to the beef-juice.

R. M. Fenn.

Heimann.—*Progressive Deafness.* "Wien. Klin. Rundsch.," Nos. 48-51, 1898.

The author gives a report on the different causes of progressive deafness; he mentions the reasons, progress, and treatment of deafness caused by diseases of the external, middle, and internal ear, excluding chronic suppurations. The whole work is more like a review on known monographies. Concerning the different treatments of sclerosis (with medicine or through operation), the author is quite right in saying that aurists seldom make such mistakes as they do in treating the sclerosis. It is really a fact that nearly each year brings some new methods of curing chronic deafness, especially sclerosis, and these remedies become more and more fantastic. But, unfortunately, these patients have made such bad experiences with the other "excellent remedies," that in their sad state they are tempted to try the "latest cure for sclerosis." And, thinking how much nonsense was written about "cure for sclerosis," and how many useless remedies were "invented" already to treat this disease: excision of the membrana tympani; extraction of the ossicula; incision of the tensor tympani, etc.; surgical treatment; then all the different medicines! The latest and greatest nonsense, I believe, was the famous (?) treatment of sclerosis with gastric juice or pepsin by Cohen (not mentioned by Heimann). This method was supposed to cure the sclerosis in a very simple way: the gastric juice or the pepsin should digest all the cicatrixes and synestics caused through the sclerosis. Of course, the ankylosis of the stapes and the otitis interna (Politzer) were not taken any notice of. In the most ways of treatment one is really forced to think the old words, "Risum teneatis, amici?" If only all specialists would consider the real reason and progress of sclerosis, they would not waste such time in treating either the middle ear by operation, or the membrana neurosa with useless medicines.

R. Sachs.

Lake, R.—*A Case of Brain Abscess.* "St. Thomas' Hospital Reports," 1897.

A man, aged thirty-one, of high intellectual attainments, had suffered for nineteen years from deafness and discharge from the left ear. The remains of the membrane and the malleus having been previously removed without benefit, a typical Stacke's operation was done. The antrum was deeply situated, and the lateral sinus was exposed; the bony roof of the attic and antrum was absent, and the dura was here inflamed. Facial paralysis was noted after the operation. Everything appeared to be going on well, and he left the nursing home; but on the tenth day after the operation he complained of headache, and the temperature was slightly raised. On the thirteenth day there was inability to read, loss of memory for names of people and places, and marked giddiness after a short railway journey. On the seventeenth day he was very much worse, and was admitted into St. Thomas's Hospital. He could then with slight difficulty read familiar and simple sentences, but soon got tired of the effort; he could write his name but not his address properly. The pupils were dilated and equal, and the reactions very sluggish; clasp of hands weak, especially right; right knee-joint brisker than left; well-marked left peripheral facial palsy.

The left temporo-sphenoidal lobe was at once explored by Mr. Ballance, the brain bulging, but not pulsating in the trephine opening. Fœtid pus was evacuated through a cannula, and the opening being enlarged, the finger was inserted. The abscess was evidently acute, as there was no thick wall. Rubber tubes were used for drainage, two through the trephine wound and one through the attic.

The next day he could not even read the simplest sentences, but this gradually improved.

A month after the second operation: "He is now seldom at a loss for a word. No difference in the strength of the arms; no weakness of right face. The power of reading and writing has been almost completely regained, though occasionally some word bothers him."

The interrupted current was used for the facial paralysis following the Stacke operation, and this had entirely cleared up at the end of six months. The patient was then in robust health, but had not attempted any mental work.

The symptoms pointed strongly to an abscess in the temporo-sphenoidal lobe, and the case shows the success attending efficient and long-continued drainage, and also the advantage of the persistent use of the interrupted current in the cure of peripheral facial paralysis.

Atwood Thorne.

Martin.—*Scalding Oil in the Ear and the Result.* The "Laryngoscope," March, 1899.

A man, aged twenty-six, in order to remove a dull feeling from the left ear, introduced hot oil.

The external ear, tragus, and antitragus were scalded. Membrana tympani concealed by a bleb. After serous fluid had escaped from bleb, pulsation was seen. After drying, iodoform was dusted on. Much necrotic tissue was exfoliated in the following two weeks, but there was no pus.

A kidney-shaped perforation of the lower half of the drum was seen; this partially closed in several weeks, and three months from the accident was found to be quite healed, and the hearing almost normal.

R. M. Fenn.

Morton.—*A Case of Bilateral Mastoiditis.* The "Laryngoscope," February, 1899.

The author refers to the smallness of the number of recorded cases, and then gives the following case :

Mrs. R—, aged forty-four, after the use of a nasal douche was seized with sudden pain in both ears. On examination both ears were found to be discharging profusely. There was tenderness with marked swelling and redness of both mastoid processes. There was marked fever, and the pain radiated backwards and also down into the neck.

Calomel, Rochelle salts, and the application of leeches, followed by fomentations and the hourly douching with warm boric lotion, brought apparent improvement. On the ninth day from first examination the author opened both antra and removed a mass of pus and granular debris by douche and curette. This was followed by rapid and permanent recovery, and no noticeable deafness remained.

R. M. Fenn.

Siebenmann.—*Spongy Ossification of the Capsule of the Labyrinth as one Pathological-Anatomical Reason of the so-called Sclerosis of the Middle Ear.* "Corresp. Bl. f. Schweizer Aertze," No. 1, 1899.

The author says one ought not to speak any more about sclerosis of the middle ear, because in reality either different parts of the cochlear capsule—not only the fenestra ovalis and stapes—or the semicircular canals are affected. In sclerosis in older people he found sometimes a disease of the nerve without any affection of the bone. Treatment : Phosphorus in small doses.

R. Sachs.

THE O'DWYER MEMORIAL.

A COMMITTEE of over forty physicians, representing sixteen different medical societies of the city of New York, and including representatives of both schools of medicine, has been formed for the purpose of doing honour to the memory of Dr. Joseph O'Dwyer.

The first meeting was held at the New York Academy of Medicine, November 22, 1898, under the chairmanship of Dr. J. D. Bryant, and was mainly devoted to organization. Dr. George F. Shrady was elected permanent chairman, and Dr. Alfred Meyer permanent secretary, and the following committee on scope and plan was appointed : Dr. Dillon Brown, chairman, and Drs. Robert Abbe, R. G. Freeman, L. Emmet Holt, and Louis Fischer.

At the second meeting, held at the Academy of Medicine, March 13, 1899, the report of the committee on scope and plan was adopted, and now only awaits final action of a meeting of the full committee.

The memorial to Dr. O'Dwyer will probably take an educational form, for by the plan now outlined it is proposed to raise a fund of \$30,000, the interest of which shall support two

O'Dwyer Fellowships in pædiatrics, open to competition by physicians who graduate in the United States, and to be held by the successful competitors for a period of two years. During this period they must furnish satisfactory proof of their engagement in original research work to a committee of five, one of whom shall be appointed by the President of Harvard University, one by the Dean of the Johns Hopkins Medical School, one by the Provost of the University of Pennsylvania, one by the President of the University of Chicago, and one by the President of the New York Academy of Medicine.

Many details of this general plan are still to be arranged, which it will be the agreeable duty of the Secretary to furnish to the medical press of the country so soon as they are finally decided. This preliminary notice has for its object merely to acquaint the profession with the fact that a movement of this nature is on foot, and that an effort will be made to give it the international character so fitting as a memorial to an investigator of international reputation.

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I.—ACCESSORY SINUSES.

(a) Maxillary.

Transillumination in diagnosis of—C. H. KNIGHT, Prat. Méd., No. 13, '98. *Ocular Troubles in*—RIOLUCCI, Thèse de Lyon. *Contribution to History of Treatment of*—BARATOUX, Prat. Méd., No. 11, '98. *Acute Non-suppurative Sinusitis with Pneumococci*—BERNARD, Rev. Heb. de L., O., R., Aug. 13, '98.

(b) Frontal.

Frontal Sinusitis causing Meningitis—FORESTIER, Arch. Inter. de L., O., R., x. 466. *Diagnosis of*—GOULEZ, Méd. Mod., May 7, '98.

VI.—LARYNX.

Nerve-supply of the—ONODI, Rev. Heb. de L., O., R., April 23, '98. *An Endolaryngeal Mirror*—MERMOD, Ann. des Mal. de l'Or., Feb., '98. *Some Cases of Laryngeal Tuberculosis*—PERCY KIDD, Clin. Journ., July 6, '98. *Therapeutics of*—SURREMONE, Arch. Inter. de L., O., R., July, '98. *Treatment of*—LEDNE, Gaz. des Hôp., Aug. 30, '98. *Diagnosis and Treatment of Cancer of*—SCHMIEGELOW, Ann. Mal. de l'Or., April, '98. *Typical Hyaline Myxoma of*—GAUDIER, Ann. des Mal. de l'Or., April, '98. *Acute Epiglottic Abscess*—MARC-HADOW, Arch. Inter. de L., O., R., July, '98. *Wound of the Thoracic Portion of the Trachea*—VAUVERTS, Ann. des Mal. de l'Or., March, '98. *Asepsis in Otology and Laryngology*—A. B. MCKEE, Laryngoscope, May, '98.

IX.—PHARYNX AND ŒSOPHAGUS.

Chronic Hypertrophic Pharyngitis—PAYNE, Thèse de Toulouse, '98. *Chronic Posterior Pharyngeal Catarrh*—MALHERBE, Arch. Inter. de L., O., R., Sept., '98. *Diverticula of the Pharynx and Œsophagus*—DELAMERE and DESCOYALS, Gaz. des Hôp., Feb. 13, '99. *Tuberculosis of the Pharynx in Children*—PLICQUE, Ann. des Mal. de l'Or., March, '98. *Lympho-sarcoma of Nasopharynx*—PIERRE, Arch. Inter. de L., O., R., Sept., '98.

X.—EAR.

Lesions of Ear, etc., in Deaf Mutes—LANNION DU FOUGERAY, Rev. Heb. de Lar., Sept. 11, '97. *Pathology of the Cortical Centre of Hearing*—F. ALT, La Pratique Méd., No. 11, '98. *A New Case of Colour Hearing*—GRAFÉ, Rev. de Méd., March, '98. *Acoustic Exercises for Youthful Deaf Mutes*—GELLÉ, Soc. de Biol., Oct. 23, '97. *Treatment of Diseases of the Ear in France in the Seventeenth Century*—GAUDIER, Echo Méd. du Nord., Dec. 17, '97. *Nasal Obstruction and Ear Affections*—MAYO COLLIER, Lancet, Oct. 15, '98. *Monocular Diplacusis*—

ETIEVANT, Ann. des Mal. de l'Or., Nov., '97. *Diagnosis between Vascular and Muscular Noises in the Ears*—T. F. RUMBOLD, La Pratique Méd., No. 18, '98. *Affections of the Ear in the Gouty*—GELLÉ, Arch. Inter. de Lar., x., 568. *The Actual State of our Knowledge of Rarefaction of Air in the External Meatus and of Massage of the Ossicles*—POLITZER, Ann. Mal. de l'Or., April, '97. *Auditory Vertigo due to Intratympanic Affections*—BLAKE, Ann. Mal. de l'Or., Oct., '97. *Epithelioma following Colloid Degeneration of Lobule*—COUDRAY and DUBAR, Soc. Anat. Paris, July 9, '97. *Ossicous Perception of the Watch as a Means of Diagnosis*—LUZZATI, Ann. Mal. de l'Or., Oct. '97. *Traumatic Lesions of the Ear*—SZENES, Ann. des Mal. de l'Or., Jan., '98. *Foreign Bodies*—CURETTE, Ann. des Mal. de l'Or., Feb., '98. *Parotitis in the Deaf and Dumb*—CLAISSE and DUPRÉ, Presse Méd., Dec. 13, '97. *The Hearing Capacity of Deaf Mutes*—URBANTSCHITSCH, Laryngoscope, Oct., '98.

II.—MIDDLE EAR.

Treatment of Middle-Ear Suppuration by Washing via the Eustachian Tube. MENIÈRE, Gaz. des Hôp., March 22, '97. *Epithelioma of Tympanum following Suppuration of Middle Ear*—LANNION DU FOUGERAY, Ann. Mal. de l'Or., Aug., '97. *Severe Hæmorrhage following Paracentesis*—J. F. M'KERNON, Laryngoscope, May, '98. *Sympathetic Otitis*—RAUGÉ, Presse Méd., Oct. 30, '97. *Double Otitis Media Acuta, etc., following removal of Adenoids*—A. C. COLLINS, Laryngoscope, Aug., '98. *Operation on the Mastoid in Chronic Suppuration*—PASSOW, Pratique Méd., No. 13, etc., '98; BROCA, Presse Méd., Oct. 30, '97; MALHERBE, Presse Méd., Oct. 30, '97. *Operation on the Mastoid involving Lateral Sinus*—G. O. STILLAM, Laryngoscope, June, '98. *Cholesteatoma of the Mastoid Antrum*—S. L. LEDBETTER, Laryngoscope, May, '98. *Case of Bezold's Mastoiditis*—MENIÈRE, Arch. Inter. de L., O., R., Sept., '98. *Case of Mastoid Periostitis*—LAURENS, Ann. Mal. de l'Or., Aug., '97. *Mastoiditis in a Baby*—G. F. HEIPER, Laryngoscope, June, '98. *Mastoiditis*—E. O. SISSON, Laryngoscope, Sept., '98. *Cerebral Complications of Suppuration of*—GRADENIGO, Ann. Mal. de l'Or., Feb. '98; LUC, Arch. Inter. de Lar., x., 410; CADE, Lyon Méd., March 20, '97. *Extradural Suppuration in the Sigmoid Fossa*—T. BARR, Brit. Med. Journ., Oct. 22, '98. *The Ophthalmoscope in Cerebral Complications*—GRADENIGO, Ann. Mal. de l'Or., Dec., '98. *Case of Temporo-Sphenoidal Abscess*—ROPER and LITTLEWOOD, Lancet, Sept. 24, '98. *Suppurative Meningitis treated by Douching the Pia Mater*—LUC, Arch. Inter. de L., O., R., x., 131. *Abscesses in the Neck from Disease of the Ear*—PROFESSOR FERRIER, Laryngoscope, Aug., '98.

DANGEROUS SEQUELE.

A Case of Pyæmia—H. M. RAMSAY, Lancet, Oct. 22, '98. *Lateral Sinus Thrombosis*—PAQUET, Nord. Méd., April 1, '97; E. B. DENCH, Laryngoscope, Aug., '98. *The Prevention of Pyæmia in Acute Otitis Media*—A. F. CHURCH, Laryngoscope, Aug., '98.

INTERNAL EAR.

Double Syphilitic Labyrinthitis Cured in Seven Weeks—ANDERODIUS, Arch. Inter. de Lar., x., 579. *Recurrent Auditory Nerve Paralysis following Measles*—LERMOYEZ, Ann. des Mal. de l'Or., April, '98.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

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Editorial Communications are to be addressed to "Editors of JOURNAL OF LARYNGOLOGY, care of Reisman, Limited, 129, Shaftesbury Avenue, Cambridge Circus, London, W.C."

A CASE OF HYSTERICAL APHONIA WITH VENTRICULAR-
BAND SPEECH.

BY DR. MIDDLEMASS HUNT.

S. M——, a Jewess, aged twenty-seven, has been more or less under my observation for the past five years. When I first saw her in February, 1894, she had been suffering from hysterical aphonia for about six years, and had on two or three occasions been an in-patient at the Liverpool Royal Infirmary for long periods. She then gave the following story as to the origin of her loss of voice. In the month of February, 1888, her mistress, to whom she was apprenticed as a dressmaker, died suddenly, and being an Irish Catholic, her friends decided to "wake" her, after the custom of her native country. My patient, then a girl of sixteen, was invited to be present, and though very unwilling, she accepted "as they dared her to go." According to her description, the wake appears to have been a gruesome and drunken orgie. The coffin containing her deceased mistress had been set on end in the middle of the room, and during the progress of the debauch it was accidentally knocked over, and the corpse thrown on to the floor. At this sight the girl screamed, became unconscious, and was taken home. For the next two or three years she was absolutely mute, and was never heard to utter a sound of any kind. When she tried to speak, her lips moved, but no tone was emitted. When I first saw her, which was six years after she had lost her voice, she was able to speak in a distinct whisper, but her normal voice had never returned except on one occasion, when she was put under ether, and then it disappeared again in two hours.

On laryngoscopic examination, one saw that the ventricular bands came firmly together on attempted phonation, so as to hide

the ligamentous glottis almost entirely ; but one could see that the cartilaginous glottis was wide open, and that the vocal processes remained apart.

All efforts to restore her voice proved futile, though at various times galvanism, hypnotism, and vocal drill were employed. A gradual improvement in the voice, however, took place in the last two or three years, till she came to talk in a deep, rough, but fairly powerful, voice.

The laryngoscopic picture all this time remained much the same. On phonation the ventricular bands were seen to come tightly together and to vibrate, while the glottis, so far as it could be seen, remained open. Evidently the tone was due to ventricular-band vibration.

As I had long abandoned all hope of restoring the normal voice of this patient, it was a great surprise to me when she presented herself at my clinic, one day in September of last year, with her voice perfectly restored, since when she has never lost it. I naturally inquired what had happened, and asked if she had had any sudden fright. She then told me that three days previously, when returning from her work at night along with two companions, she had seen a man thrown downstairs into the street, and so severely injured that he died shortly afterwards. They went to his assistance, but at the sight of blood flowing from a wound in his head she became alarmed and ran off. Her voice did not come back at once, but next morning when she awoke she could speak.

Laryngoscopic examination now shows normal closure of the true cords on phonation, with considerable hypertrophy of the ventricular bands, so that on quiet breathing the cords are quite hidden. Though the voice is quite normal, the cough still remains hoarse and gruff as formerly.

The points in this case which appear to me of interest are: (1) The severity of the original nerve shock; (2) the recovery after exposure to excitement, when all the usual remedies had failed; and (3) the development in the course of time of ventricular-band speech to replace the lost natural voice.

I should like to have the opinions of the Fellows on the last point. In what proportion of cases of hysterical aphonia do we find closure of the ventricular bands on attempted phonation? In my experience it is very rare, and I can only recall one other case. I do not find it described in any of the text-books, though Dr. Treupel, in his monograph on hysterical affections of the larynx, says it is not uncommon. He regards it as a transition form of neurosis, lying between spastic and paralytic aphonia.

Is that the true view of such cases? Is not the approximation

of the ventricular bands in hysterical aphonia rather an effort of Nature to make them take the place of the paralyzed cords, just as we see in those cases where the true cords have been destroyed by disease?

THE LARYNGOLOGICAL AND OTOLOGICAL CLINICS OF ENGLAND AND SCOTLAND.

THE object in reprinting the following tables has been to enable gentlemen wishing to obtain post-graduate instruction in England and Scotland to have before them in tabular form a full list of all clinics open to them.

The editors will be grateful for notice of any irregularity in the present text, and in future for changes made in the clinics.

Name.	Ear Clinic.	Throat Clinic.	Course.	Fees.
METROPOLITAN MEDICAL SCHOOLS.				£ s. d.
ST. BARTHOLOMEW'S ...	Tu., F., 2 p.m.	Tu., F., 2.30 p.m.	3 months	15 15
ST. THOMAS'S ...	M., 1.30 p.m.	Th., 1.30 p.m.	3 months	5 5 each
ST. GEORGE'S ...	Tu., 2 p.m.	Th., 2 p.m.	—	—
GUY'S ...	Tu., 1 p.m.	F., 2 p.m.	—	—
ST. MARY'S ...	M., Th., 9 a.m.	Tu., F., 3 p.m.	3 months	3 3
KING'S ...	Tu., 2.30 p.m.	M., 1.30 p.m.; F., 2 p.m.	—	5 5
UNIVERSITY ...	M., Th., 9 a.m.	M., Th., 9 a.m.	—	—
CHARING CROSS ...	F., 9.30 a.m.	F., 9.30 a.m.	—	—
LONDON ...	W., 9 a.m.	W., 9 a.m.	—	—
ROYAL FREE ...	W., 9 a.m.	W., 9 a.m.	—	—
WESTMINSTER ...	Tu., 1.30 p.m.	—	—	—
MIDDLESEX ...	Tu., F., 9 a.m.	Tu., F., 9 a.m.	—	—
GREAT NORTHERN CENTRAL ...	Tu., F., 2.30 p.m.	Tu., F., 2.30 p.m.	3 months	2 2
WEST LONDON ...	Tu., 2 p.m., Sa., 10 a.m.	Sa., 10 a.m.	3 months	3 2
METROPOLITAN ...	Tu., 2 p.m.	Tu., 2 p.m.; Th., 2 p.m.	—	—
NORTH LONDON CONSUMPTION ...	—	Th., 3 p.m.	—	—
FARRINGTON DISPENSARY	Tu., F., 2 p.m.	Operations, Th., 2 p.m.	—	—
SPECIAL HOSPITALS.				
ROYAL EAR ...	M., W., Sa., 3 p.m.	—	3 months	2 2
METROPOLITAN EAR, NOSE, AND THROAT ...	Tu., 2 a.m.	—	—	—
GOLDEN SQUARE ...	Th., 7.30 p.m.	—	—	—
CENTRAL THROAT AND EAR ...	Daily, 3 p.m., M., F., 7 p.m.	Daily, 3 p.m.; M., F., 7 p.m.	3 months	2 2
LONDON THROAT ...	Daily, 2.30 p.m.	Daily, 2.30 p.m.	3 months	3 3
OWENS COLLEGE, MANCHESTER ...	Tu., F., 6.30 p.m.	Tu., F., 6.30 p.m.	6 months	5 5
UNIVERSITY OF DURHAM	Tu., F., 6 p.m.	Tu., F., 6 p.m.	3 months	3 3
ABERDEEN GENERAL DISPENSARY ...	M., W., Th., Sa., 2.30 p.m.	M., W., Th., Sa., 2.30 p.m.	6 months	5 5
VICTORIA UNIVERSITY, LIVERPOOL ...	Daily, 2 p.m.	Tu., F., 6 p.m.	1 month	1 1
BIRMINGHAM ...	Tu., F., 5.30 p.m.	Tu., F., 6 p.m.	2 months	2 2
YORKSHIRE COLLEGE, LEEDS ...	—	—	Perp.	5 5
SCOTCH AND PROVINCIAL MEDICAL SCHOOLS.				
OWENS COLLEGE, MANCHESTER ...	M., 2 p.m.; Tu., 1 p.m.	—	1 course	1 1
UNIVERSITY OF DURHAM	W., Th., F., 2 p.m.	—	2 courses	1 11 6
ABERDEEN GENERAL DISPENSARY ...	Th., 10 a.m.	Th., 10 a.m.	Perp.	2 2
VICTORIA UNIVERSITY, LIVERPOOL ...	Tu., F., 3.30 p.m.	Tu., F., 3.30 p.m.	3 months	1 1
BIRMINGHAM ...	M., Th., 2 p.m.	M., Th., 2 p.m.	—	—
YORKSHIRE COLLEGE, LEEDS ...	Daily, 9.30 a.m.	Daily, 9.30 a.m.	—	—
EDINBURGH.	M., 2.30 p.m.; W., 1.30 p.m.; F., 1.0 p.m.	W., 1.30 p.m.	—	—
EYE, EAR, AND THROAT INFIRMARY ...	M., Th., Sa., 12 noon	Tu., F., 4 p.m.	3 months	2 2
ROYAL INFIRMARY ...	Tu., F., 11 to 12 noon	Tu., F., 11 to 12 noon	—	—
GLASGOW.				
ANDERSON'S COLLEGE ...	Th., 8 p.m.	—	3-6 months	1 1
CENTRAL DISPENSARY ...	Tu., F., 1 p.m.	—	—	—
ST. MUNGO'S COLLEGE ...	Tu., F., 12 (winter)	Tu., F., 3 (summer)	—	—
ROYAL INFIRMARY ...	Tu., W., 3.30 p.m.	Tu., W., 3 p.m.	—	Free
DUNDEE.				
ROYAL INFIRMARY ...	Tu., F., 2 p.m. (winter)	Tu., F., 2 p.m. (winter)	—	—
THROAT AND EAR INSTITUTION ...	M., Th., 2 p.m. (summer)	M., Th., 2 p.m. (summer)	—	1 1

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Ordinary Meeting, May 5, 1899.

F. DE HAVILLAND HALL, M.D., *President, in the chair.*

DISCUSSION ON ASTHMA IN ITS RELATION TO DISEASES OF THE UPPER AIR-PASSAGES.

THE PRESIDENT in a few introductory remarks said that it had been decided to devote this meeting to a discussion upon "Asthma in its relation to Diseases of the Upper Air-passages." This subject in many respects was a purely medical one, and illustrated the importance of the laryngologist being not only a surgeon, but an able physician. He was glad to announce that Dr. Percy Kidd had consented to open the discussion with the medical aspect of the case, and that Dr. P. McBride would follow, and treat the subject from the point of view of those who practised more especially in the diseases of the upper respiratory tract.

Dr. PERCY KIDD said: In accepting the invitation of the Council to assist in opening the present discussion, I felt more than the traditional hesitation professed on such occasions from the conviction that there must be many members of the Society who have had a larger experience of the subject in certain of its aspects. But, hearing that my task was to be shared with Dr. McBride, I took courage, for I had the assurance that any deficiency on my part would be more than made good in his address. In order to promote discussion and not to occupy too much time, I shall endeavour to make my remarks as short as possible, avoiding any attempt to discuss the literature of the question, and dealing mainly with matters of which I have had personal experience. According to the generally prevailing view, asthma is essentially a neurosis, in which the respiratory system is predominantly engaged, though reflex relations with other organs are often manifested. In speaking of asthma, I refer only to what is commonly described as bronchial asthma, no mention being made of cardiac or renal asthma. It is well known that nasal symptoms, sneezing, hypersecretion, and obstruction of the nares, are not uncommonly met with in connection with asthma, and great attention has been devoted to this relation since Voltolini succeeded in curing a case of asthma by

removing nasal polypi. The pathology of the asthmatic seizure is still somewhat uncertain, the theories most in favour ascribing the dyspnœa either to spasm of the bronchial muscles or to vasomotor dilatation of the bloodvessels of the bronchi. A considerable advance in our knowledge was undoubtedly made when the close relations of bronchial and hay asthma became recognised, for a strong side-light was thereby thrown on the pathology of the asthmatic paroxysm. In view of the phenomena of hay fever, one can hardly doubt that vascular dilatation plays a very important part in the production of asthma, whatever the influence of spasm may be, and the tenacious pearly sputum of asthma, with its peculiar spiral threads, is quite as easily explained, according to this view, as by the assumption of a special form of bronchiolitis.

To return to the subject of the relation of nasal disease to asthma. It appears to me that the frequency of this association has been much exaggerated, particularly by Bosworth, who says, to quote his own words, that "a large majority, if not all, cases of asthma are dependent upon some obstructive lesion in the nasal cavity." It is assumed by this writer and others that nasal symptoms in asthma are invariably the result of some definite local lesion, and that asthma is a reflex result of the morbid condition of the nose. It cannot be denied that nasal symptoms may precede, accompany, or alternate with attacks of asthma, but the evidence forthcoming in support of the view that the two groups of phenomena necessarily stand in the relation of cause and effect is not altogether convincing. It cannot be said that there is anything characteristic in the nasal changes found in asthmatic subjects—polypi, periodical swelling of the mucous membrane of the inferior turbinal and other parts, hypertrophic rhinitis, œdematous swelling over the cartilaginous septum, and various obstructive deformities, such as spurs and deviations of the septum. These conditions are common enough, and yet it is quite the exception to find them associated with asthma. According to my experience, the state of the nasal cavity in asthmatic persons is generally substantially sound. The strongest proof of the influence of nasal disease upon asthma consists in the relief to the paroxysms of dyspnœa that sometimes follows surgical treatment of the nose.

In some cases (I should say, a very few) the amelioration is so marked as to suggest that the asthma was a reflex result of the nasal disorder. But in most instances any improvement that ensues is temporary and incomplete. If we remember what marked mitigation of the asthmatic seizures may follow an unimportant modification of drugs, a change of residence, or some powerful

emotion. we shall be loath to credit any slight improvement to surgical operations on the nose. One of the worst cases of asthma I have seen obtained more relief from a course of compressed air-baths than from any other measure, including hypodermic injections of morphia. It is hard to resist the suspicion that the success of the compressed air-bath was largely due to psychical influences, and some of the apparent triumphs of nasal surgery are perhaps susceptible of a similar explanation.

To sum up my own experience. I have seen two or three cases of asthma associated with polypi, and in two of these removal of polypi was followed by manifest relief to the asthmatic condition. Unfortunately, the patients were lost sight of, and their subsequent history is unknown to me. A moderate degree of swelling of the inferior turbinal, more particularly of its posterior extremity, was met with in a few asthmatic subjects. But in only one instance was there any noteworthy obstruction to nasal respiration, and except in the case of this patient, I have not felt justified in proposing cauterization or removal of the swollen tissues. The patient referred to remains under observation and has been recommended to undergo appropriate local treatment, the uncertainty of the result *quâ* asthma having been explained to him. Periodical swelling of the inferior turbinal may have existed in some cases, from the history of passing nasal obstruction given by the patients, but I have had no opportunity of verifying this surmise. I do not remember to have seen any instance of gelatinous swelling of the anterior septal region, or of any marked development of spurs, in this connection. No cases of asthma with adenoid vegetations in the naso-pharynx have come under my observation. Of localized areas of hyperæsthesia in the nasal cavity I have no experience to offer. It may seem that this account reads very like a confession of inexperience. But it must be borne in mind that the cases to which I refer presented themselves on account of asthma primarily, whereas asthmatics that apply for relief to specialists in the domain of laryngology and rhinology are likely to comprise an unduly large proportion of cases of pronounced nasal disease. The clinical history of cases in which sneezing and other symptoms of hay fever alternate with, or are succeeded by, spasmodic dyspnœa may be regarded as supporting the reflex nasal origin of asthma; and the same view may be taken of asthma induced by the smell of the cat, horse, dog, powdered ipecacuanha, violets, roses, etc. But, as Semon and Watson Williams point out, where the attacks ensue on the inhalation of irritant particles like pollen and ipecacuanha, it is not impossible that asthma may be the result of a bronchial rather

than a nasal reflex, some of the fine powder reaching the lower air-passages as well as the nose. It is generally admitted that for the production of hay fever at least two factors are required, viz., an external irritant and a morbidly sensitive nervous system. Some writers consider that a further element, a pathological condition of the nasal mucous membrane, is also necessarily present, a statement which I cannot accept as correct for all cases. I am inclined to believe that too much is nowadays expected of the nose, and the result is that the happy individuals that would be certified as possessing an ideally healthy nose are comparatively few. If rhinological examination is conducted according to this counsel of perfection, we need not be surprised that most if not all patients with nasal symptoms are found wanting.

The following conclusions appear to be justified. In some cases asthma is relieved by the removal of polypi, though the explanation of this effect is still very obscure. Hay asthma may sometimes be benefited by treatment of morbid conditions of the nose and naso-pharynx, an experience of which, at present, I can claim no personal knowledge. The prospects of improvement in such circumstances, as in the case of polypi, seem to be very uncertain, but in the presence of definite nasal stenosis local treatment is not only warranted but advisable. In the ordinary form of asthma uncomplicated by hay fever or polypi, nasal symptoms are not uncommon, but the nose is generally healthy and requires no local treatment, though a spray of cocaine is said to give relief in some cases. Here the nasal symptoms may be regarded as merely part of a general vasomotor neurosis of the respiratory tract. The history of some instances of hay asthma, in which spasmodic attacks persist in the winter although the nasal symptoms are then in abeyance, shows how important is the neurosal element, quite apart from the existence of peripheral irritation of the nares.

Dr. McBRIDE said: In addressing an audience of specialists it would be out of place—it would almost be an impertinence—to consider the relation of asthma to the upper air-passages from a historical point of view. The names of Voltolini, Hack, B. Fränkel, and many others will at once occur to you all as pioneers whose teachings have been of great value in calling attention to a connection which is admitted by all thoughtful physicians and specialists of to-day. Again, it would be equally out of place to ask you to follow me through the immense mass of literature which relates to reflex neuroses, of which asthma is probably the most important. This literature is in its main facts, no doubt, familiar to all here. As you are aware, it is abnormal conditions of the nose which have

been most generally found to cause asthma, and it has seemed to me, therefore, best to begin my remarks with the heading—

Nasal Asthma.

The most generally known form is undoubtedly the variety which occurs in the course of hay fever and allied conditions. You are all familiar with the chain of events in these cases—the symptoms of coryza induced by the pollen of grasses and flowers, dust and the like, or more rarely by emanations from animals, chemicals, and a variety of other causes, followed in certain persons by asthma which differs in no respect from the affection as commonly described in our medical text-books. In this chain of events we have an illustration of nasal asthma in its most familiar form, and it is generally admitted that hay fever requires for its development a neurasthenic, or at least a neurotic condition which acts as a predisposing cause. Of course you are all aware that in a proportion of cases we find more or less marked abnormalities in the nasal passages, but I am quite sure that in a very large number of instances these parts are, excepting during the attacks, for all practical purposes normal.

I take it that the course of events is as follows: The specific irritant touches the mucous membrane, which, in order that the other phenomena may result, must be hyperæsthetic; erectile swelling then occurs, followed by hypersecretion. In certain persons a reflex asthma is set up by the nasal irritation. It is well known that hay fever is to some extent dependent upon race—thus, Anglo-Saxons are more prone to be affected than persons of other nationalities. It seems also to be influenced very materially by social position, for I presume that most of us have observed it either chiefly or entirely among the better or—shall I say wealthier classes? Speaking for myself, I have seen numerous cases, but with one or two exceptions they have always occurred in private patients.

A less common, but still a relatively common, form of nasal asthma is that which seems to depend upon the presence of nasal polypi. In these cases the nostrils are usually not completely occluded, so that the presence of the growths may escape observation unless attention be directed to this point. I have now seen a considerable number of people who suffered from asthma, and in whom nasal polypi existed. Where this combination occurs, I consider that we may very reasonably expect to benefit the former by removal of the latter. It is somewhat difficult to explain why small polypi should be more liable to cause asthma than large

growths, but probably the former being more mobile are for this reason more likely to irritate the mucous membrane.

In certain cases of hypertrophic catarrh and deviations, or outgrowths from the septum, we also meet with asthma which may be benefited by local treatment. Sometimes the pathological condition is obvious and so marked as to interfere with nasal respiration, and thus give rise to local discomfort. In such cases there can be no great difficulty in determining upon the proper line of treatment. In other instances, however, deviations from the normal are slight—so slight that perhaps we should not be justified in calling them pathological. Gentlemen, I know I am treading on thin ice when I say that we have as yet no satisfactory definition of a normal nose. We know very well what the anatomically correct organ should look like—the nasal septum should be straight and have no outgrowth; the middle and inferior turbinated bodies should be of a certain size, shape, and colour. This is the ideal, but we rarely find it; just as it is uncommon to find perfection elsewhere in this world. I have introduced this matter in order to lead up to the fact that we are often called upon to make rhinoscopic examinations of asthmatics, and frequently find nothing which, if discovered in another person, we should be justified in stigmatizing as pathological. I think I may say without offence that rhinologists all over the world are divided into two classes. One holds that it is most desirable for a man's nose to be symmetrical, not only externally, which we all admit, but also internally. Gentlemen of this persuasion make it their business to straighten every septum which is not mathematically straight, to remove any excrescences which they find disagreeable to the examining eye, and finally to reduce the turbinated bodies to such size as seems proper to them. Those who belong to the opposite camp tend to limit treatment to cases in which the condition of the nose is such as to produce nasal symptoms appreciable as nasal by the patient. I fancy that most of us here hold with the second class, and I need hardly say that my own views are decidedly conservative with regard to nasal surgery. At the same time, if these conservative views in their entirety be brought to bear upon nasal asthma, they may prove misleading; and, moreover, if your patient falls into the hands of a nasal specialist who believes no nose normal, he may effect a cure where you have failed.

I do not wish to say that I have met with nasal asthma in an absolutely normal nose; but it appears to me that in some asthmatics nasal treatment is permissible, and even desirable, where the conditions are such that on other grounds operative measures

would certainly not be indicated. Thus, if the bronchial attack be preceded by sneezing and nasal hypersecretion, the application of the electric cautery may be beneficial, just as it is in some cases of hay fever, even if at the time of application the parts are fairly normal. I take it that in some of these cases this treatment is beneficial, by destroying nerve-endings through which reflex vasomotor changes are produced; while in others good results are obtained by the formation of cicatrices, which bind down the erectile tissue and thus prevent swelling. I do not think, however, that in all cases the paroxysm is preceded by nasal symptoms, even where nasal treatment may do good. I have, however, found that in a considerable proportion of asthmatics there can be detected on the nasal mucosa spots which, when touched with a probe, produce cough. My experience has been that, in almost every patient who shows this phenomenon, the application of the electric cautery to these sensitive areas will produce marked amelioration, amounting in some instances to a practical cure. These cough spots may be met with in any part of the mucous membrane, but are most commonly situated on the inferior turbinated body, while occasionally the reflex area may be encountered while passing a probe between a projection from the septum and the outer wall. I have said that I consider the presence of this reflex cough as an indication in favour of intranasal treatment; but I have not found that when it is absent such treatment is always useless, although in the one case we are entitled to express a conviction in favour of the probability of benefit, while in the other operative measures must be looked upon as more or less experimental so far as the asthma is concerned. I cannot help thinking that the clinical value of this symptom has been overlooked, although I have repeatedly called attention to it for many years. In this connection a very interesting question confronts us, May it not be possible to benefit asthma in certain cases by applying the cautery to a normal nostril? The fact that we speak of a nasal reflex asthma implies that we admit something like the following chain of events: A stimulus travels from the periphery to a centre, and there sets up molecular changes, which result in a paroxysm of asthma. Observe, we admit that an irritant applied to the nasal mucosa may effect molecular changes in a centre which is responsible for asthma. It almost follows as a corollary that we can influence this centre from the nose, and I very much question whether many asthmatics—even those with normal noses—might not be benefited by the use of the electric cautery, not as a destroyer of tissue, but as a counter-irritant.

It may, perhaps, not be amiss to glance for a moment at the prognosis of nasal asthma. I do not think it is ever safe to promise the patient a cure, because every thinking rhinologist will admit that the nose is rarely, if ever, the only cause of asthma. In cases of polypi, however, we can usually do much good by removal of the growths, and when we have the introduction of a probe into the nostrils followed by cough, the probability of benefit is much increased. In ordinary hypertrophic catarrh, and in the case of spines or deviations, the last-named symptom becomes of even more significance.

Asthma caused by other Parts of the Upper Respiratory Tract.

While nasal asthma is comparatively common, it is in my experience rare to have this neurosis produced by other parts of the upper respiratory tract. I am aware that cures have been reported after removal of enlarged tonsils and after destroying granulations upon the posterior pharyngeal wall, but I do not remember to have met with such cases myself. On one occasion only have I found asthma apparently cured by removing adenoids from a young boy. I have thought it well, thus, at the risk of appearing egotistical, to confine my remarks to an expression of personal experience and views. To discuss the subject by any other method would have occupied much time without any commensurate advantage.

In conclusion, I would venture once more to express my conviction that while the upper air-passages may be the exciting causes of asthma, its occurrence depends upon some individual predisposition. We can therefore hardly speak of cures by local treatment of the nose and throat without modifying the expression, and we must not forget to use such general remedies and modifications of regimen as have been found useful by physicians generally.

Dr. J. C. THOROWGOOD expressed his thanks to the Society for allowing him to be present as a visitor, and to be able to listen to such interesting papers, whose wisdom he admired. He thought with the last speaker that it was quite right not to promise the patient cure from asthma, and he remembered a case in which he had been consulted where, by following this plan, he had been able to prevent troublesome consequences. Speaking from his own experience, he could not agree with Dr. McBride that asthma was not very often associated with adenoid growths; he had come across cases where the removal of adenoid growths had much mitigated the attacks of asthma, and in one case the patient had been almost free from asthma owing to the removal of these

growths. He was quite convinced that there are certain areas in the air-passages which, when touched, give rise to paroxysms of asthma—this had occurred on the removal of polypi; one had to be particularly careful not to excite these centres in highly neurotic patients. In alluding to the effect of asthma on the circulation, he mentioned a case in which, other remedies having failed, chloral gave marked relief. Being a dilator of the vessels, theoretically chloral ought to answer if, as he believed, the asthma was due not to vasomotor dilatation so much as to violent spasmodic contraction of the vessels.

Mr. WAGGETT believed that it was very seldom that a casual relationship between true spasmodic asthma and nasal disease could be established on a strictly logical basis. Although he had many opportunities of meeting with these cases, he could remember but one instance in which the nasal origin of the trouble was proved with any real certainty. The case in question was that of a man of forty, who complained of distressing attacks of asthmatic character which had persisted for twelve years in spite of medical treatment. The attacks occurred at all times of the day, but more particularly after lunch, and lasted about an hour or so. To quote the patient's own report: "They commenced with tightness amounting to severe pressure across the bridge of the nose; suffocating feeling about the throat, and apparent inward pressure from the ears. There was distinct tightness of the chest—very little wheeze—but difficult breathing with much effort to clear the throat; generally, too, there was dryness of the throat, and, on the whole, the feeling was that one would fall down." On examination a very large septal spur was found pressing tightly against the right inferior turbinate in its middle part, the nose in other respects being unusually patent. The spur was removed and the attacks immediately ceased. Eight months later the patient returned, stating that the attacks gradually recommenced about two months after the operation and were again very distressing. A large bony bridge was discovered stretching between the inferior turbinate and the site of operation. This was removed, and the attacks at once ceased. Five weeks ago the patient reappeared, stating that the attacks recommenced about four months after his previous visit. A narrow bony bridge was again found in the former situation. This was removed, and the patient reported himself as being, for a third time, relieved of his attacks. The general conditions of the patient as to occupation and place of residence had remained unaltered throughout the course of the case. On no occasion could an attack be induced by experimental

irritation of the nasal fossæ. The interest of the case, which was one of diffuse neurosis embracing the symptoms of true spasmodic asthma, lay in the sequence of events, the cardinal point being the disappearance of the special symptoms on three occasions as a sequel to three almost identical intranasal operations. Even in this case a causal relationship between the neurosis and the nasal lesion could not be absolutely established, as no evidence was forthcoming that the reappearance of symptoms coincided in point of time with the bridge formation. The speaker was compelled to believe that true nasal asthma was a rare disease, and inasmuch as it was often spoken of as an everyday occurrence, he thought it would be valuable if members would take this opportunity of furnishing statistical data.

Dr. MACINTYRE (Glasgow) said, while he could fully understand the desire to obtain exact statistics, we had to remember one difficulty. The patients who came back to us were very often those in whom the treatment had been unsuccessful, judged from the standpoint of being cured, whilst those that got relief were not so easily traced. Judged from every standpoint, however, he thought that from his own experience he could recall a few cases of which it would be justifiable to use the term "cured." These were a very small minority, and, like others, his experience had been such as to induce him to speak of relief rather than cure where success was claimed for treatment. He thanked both gentlemen for the manner in which they had introduced the subject, knowing the difficulties in opening such a debate. On the one hand, while there might be over-enthusiasm and too great a tendency to surgical procedure, nevertheless the openers of such a discussion had a certain responsibility in presenting their views, because it was possible to throw such an amount of doubt upon the matter as to damp the enthusiasm and ardour of those who are inclined to investigate this difficult and as yet experimental branch of surgery. Further, it was exceedingly difficult before beginning the treatment of a case to give an exact prognosis, notwithstanding the fact that in a certain number of cases, as a matter of experience which could scarcely be conveyed in language, the surgeon felt more hopeful than in others. Asthma might be induced from an irritation of the nasal membrane, but other causes might exist in the same patient. He gave instances of the difficulty of arriving at a prognosis by quoting two cases in which patients had been sent for surgical treatment in the nostrils, and in one of which it was ultimately found that the irritation was due to a sarcoma at the base of the skull, and a second was ultimately traced to a neoplasm in the mediastinum. There was

one point which had not been spoken of as yet, and that was the information which might be got from a study of the action of the diaphragm, which was not always the same in cases of asthma, but which could now be observed. At present he was engaged in a series of investigations not yet published bearing upon this, and it was not at all impossible that, in some cases at least, light would be thrown upon the subject by the differential diagnosis which might be got by means of the X rays.

Dr. HERBERT TILLEY said that his experience was very similar to Mr. Waggett's, and he thought that only a minority of cases of asthma would be found amenable to surgical treatment of the nose. Cases of inherited asthma had received no benefit from intranasal treatment at his hands, and his experience in these cases was, perhaps, larger than is usual, because both in his own and his wife's family asthma was an unfortunate constitutional legacy. He had recently operated on a young sister-in-law who had commenced her asthmatic career—the paroxysms coming on at night or even in the daytime after violent exercise, *e.g.*, cycling uphill or horse-riding. He removed a post-nasal growth, and later on the anterior ends of both inferior turbinates, because they were producing marked nasal obstruction, and the patient was always suffering from sneezing fits and severe colds. Here was a case which seemed to be an excellent test case for intranasal treatment. It was now nearly two months since the treatment was carried out, the patient expresses herself as delighted with the comfort of free nasal respiration, but the asthma attacks are “about the same, if anything a little better, but the medicine (potassium iodide, stramonium and arsenic) keeps the attacks off as long as it is taken.” He thought that such would be the experience of others in inherited cases, as also in gouty asthma; at the same time, he would not deny that occasionally cases might be immensely relieved by intranasal treatment, on the same principle that epileptic attacks had been completely cured by removal of nasal polypi, but such cases would be a minority. The speaker described his own personal experience of asthma, which was typical of “place asthma;” *i.e.*, in certain parts of England he was almost sure to get an attack about two o'clock in the morning, the attacks lasting some two hours and then completely passing off. In London he was always free, and if returning from the country with an attack upon him, nothing produced such splendid relief as a journey by the underground railway. Recently going down the Channel he had had two severe attacks whilst in his cabin below deck, the attacks passing off immediately he went on deck. He considered his case was probably gouty asthma, as his father was a

martyr to the latter disease. His asthma attacks were not preceded by any nasal irritation or catarrh, and, in spite of the suggestion of his friends, he scarcely thought it worth while at present to undergo nasal treatment. With reference to destroying the sensitive areas in the nasal mucous membrane referred to by Dr. McBride, he had almost discarded the galvano-cautery for this purpose, because trichloroacetic or even glacial acetic acid seemed to possess more penetrative and permanent properties. The only cases in which he could consider he had *cured* asthma by surgical treatment were those in children where the disease was associated with large tonsils, post-nasal growths, and accompanying bronchial and nasal catarrh with much secretion; these were very favourable cases, but he could not say the same for cases of genuine spasmodic asthma in the adult.

In reply to Dr. MacIntyre, Dr. Herbert Tilley said that he thought it was scarcely scientific in a test case to give iodide of potassium whilst surgically treating the nose, because they all knew what relief that drug alone would give.

Dr. SCANES SPICER considered that Dr. McBride had very judiciously reviewed the question under discussion. On the present occasion he would desire to remark on two points mentioned in Dr. McBride's opening, *i.e.*, (1) the word "experiment" as applied to a surgical measure; (2) the term "a normal nose." As to the word "experiment," the public is apt to be misled by ambiguous terms. The word "experiment" is ambiguous. Most persons regard it, used surgically, as equivalent to a vivisection or laboratory research, and as implying something rash and risky—a kind of "kill or cure" procedure. This idea is widespread. The consequence is that a critic who describes a suggested procedure as "an experiment" tends to excite a prejudice against it and to prevent dispassionate consideration, whereas all the critic is justified in predicting is, that the procedure is not certain to "cure radically" every case—which, indeed, is true of all therapeutic measures. Unless, indeed, he desires to be understood as meaning by the word a procedure of which the result is sure and unvarying, as in a chemical or physical experiment. Since, then, the idea that any given surgical procedure is not an infallible cure for every case can be expressed in unambiguous English terms, and those not calculated to excite prejudice, the speaker thought that the use of the word "experiment" in clinical therapeutics was inappropriate and unwise, and should be discouraged. He regretted that it had, in this connection, crept into Dr. McBride's excellent book. With reference to "a normal nose" no definition had yet been agreed

upon. Could any nose be called normal in which the patient was conscious of suffering or discomfort? Thus, although no spur, polypus, or other gross lesion might be found on examination, the nose may regularly be obstructed at night, and cause insomnia, restlessness, etc., as a consequence of the nasal discomfort; that is to say, a nose which may appear normal during the day when the patient is erect, becomes insufficient at night when he is horizontal. And here a protest should be entered against a widespread notion that spurs should be operated on *quâ* spurs and as deviations from a theoretical symmetrical ideal. Such a procedure should be strongly discountenanced. The correct indications for attacking a spur are: (1) that it acts as an impediment to the due physiological intake of air, with consequent alteration of normal air tension on the nasal mucosa and in the pneumatic accessory spaces; (2) that it is in abnormal contact with other intranasal structures, either permanently, or periodically on mucosa turgescence, and leads to irritative and reflex disturbances. Hence, a large spur may often be ignored if in a cavity otherwise roomy, whereas a small one in other relations and situations demands attention. It is this insufficiency of passage and presence of abnormal contacts which form the true criteria of interference. Hence, a nose which presents no obvious pathological changes, and may so be regarded in one sense as normal, is abnormal, if from arrested evolution its channels are inadequate to admit the air demanded by the organism of which it is a part. His own experience had convinced him of the positive and great benefits derived in many cases of "asthma" from thorough nasal treatment, which was not to be expressed in terms of polypi and galvano-cautery. A few patients were prepared to maintain they were cured, while the majority obtained great relief; but the speaker's cases were not, with very few exceptions, drawn from the class of fossil asthmatics which would gravitate to the chest physicians, and were in nearly all instances less confirmed cases of spasmodic dyspnoea, in which other troubles—usually nasal—were as prominent as the asthmatic condition.

Dr. P. WATSON WILLIAMS (Bristol) reported one case in which intranasal treatment, in conjunction with general treatment, had apparently resulted in practically a complete cure, as for three years the patient had been free from asthma. The patient came to him five years ago with constant asthma, which had persisted more or less for eighteen years. She was having at least two paroxysms every twenty-four hours, as they came on both day and night. The mucous membrane of the nose was very hyperæ-

thetic, but there were no particular spots of special irritability, nor did sneezing, cough, or asthma occur on probing. The mucosa over the septum and turbinals was cedematous, and to such a degree overlaid the middle turbinals as to be polypoid. The polypi were snared and the bases and surrounding sodden area cauterized. Violent attacks of paroxysmal sneezing alternated with the attacks of asthma, and the patient experienced marked temporary relief from the use of a cocaine spray. There was therefore good reason to believe that the intranasal irritation had a close connection with the asthma in this case.

We do not know for certain what is the actual condition of the bronchi in asthma, but it seemed to him that there is sufficient ground for believing that the paroxysm is due to excessive contraction of the bronchial muscular coat and of the bronchial arteries. He was unable to accept the view that it is due to vascular dilatation. Radcliffe Hall, cited by Walshe, considered the use of the bronchial muscular coat was by its "tonus" to counteract the effect of coughing. But is it not possible that it, like the *alæ nasi* and vocal cords, may rhythmically dilate and contract with deep inspiration and expiration, and that in asthma the normal "tonus" is heightened, and while imperfect *dilatation* occurs during inspiration, the *contraction* phase is excessive during expiration? There is expiratory, not inspiratory, dyspnœa; consequently the air in asthma, and in bronchitis, too, distends the chest. It is difficult otherwise to understand why dyspnœa is expiratory and the chest gets distended. If there be such a closely associated physiological action between the movements of the upper and lower respiratory tracts, we can readily comprehend how in some cases there seems such close interdependence in their *morbid* relationship.

When we come to discuss this relationship between intranasal disease and asthma, we are confronted at the outset by the difficulty in deciding what constitutes a morbid condition of the nasal passages. He had no manner of doubt that in a very large percentage of asthmatic patients the nasal passages present conditions which cannot be regarded as ideal, and when we have excluded all septal deflections and spurs, turbinal hypertrophies, polypi, general hyperæmias, etc., there will be only very few cases left to participate in the other very numerous intranasal defects which civilized humanity is heir to. Moreover, we have ample testimony that *removal* of these defects—especially, in my experience, removal of polypi and cauterization of markedly hypertrophic turbinal bodies—will be followed in a very large proportion of cases by more or less prolonged amelioration, or even cessation, of asthmatic attacks.

But it was very difficult to decide how far the nasal affection is the cause of the asthma, even in those cases in which intranasal treatment has proved successful in relieving the asthma.

When one bears in mind the association of asthma with various neuroses and with gout and renal disease, the very *frequency* with which nasal disease is associated with asthma should make one suspicious that there was something more than simple cause and effect in their relationship. Dr. Watson Williams thought that most frequently the intranasal affections, such as hypertrophic rhinitis, water-logged mucous membranes, and perhaps even sometimes œdematous polypi (he took but little notice of minor septal deformities), are the *consequence* and not the cause of the asthma, and sometimes there may be no evidence whatever of their existence until after the asthmatic paroxysms have recurred for years. Yet such experience as he had had made him very unwilling to leave untreated any obvious intranasal defects in an asthmatic patient which could really be a cause of irritation or an embarrassment to nasal respiration; since the removal of any contributory factors towards the occurrence of the paroxysms, although they might not be the essential cause, will often materially aid our efforts in other directions to combat the disease, whilst occasionally the happy results that follow the intranasal treatment seem conclusive proof that therein lay the essential cause of the malady.

Dr. THEODORE WILLIAMS could recall one case of asthma cured by the removal of nasal polypi, but from the discussion which had taken place he gathered that the Society was not in favour of operating on the nasal cavities in order to cure asthmatic attacks, a conclusion of some comfort to himself, as he doubted whether he had recommended operations as often as he might have done. For the medicinal treatment of genuine spasmodic bronchial asthma generally, he found iodide of potassium in 8 to 10 grain doses three times a day, combined with stramonium, henbane, or belladonna, of great advantage, and if these failed, compressed air-baths, such as were used at the Brompton Hospital, gave great relief.

Dr. W. PERMEWAN thought the distinction between "great relief" and "cure" was an extremely narrow one; "cure" was a large word, and not very properly used in a question of this kind. In the majority of cases relief was very great, and unmistakably the result of treatment was to give relief.

Sir FELIX SEMON: How long lasting?

Dr. PERMEWAN: Until necessity arose for further intranasal treatment. Of the variety of nasal diseases, polypi were by far

the most important, and he agreed with those who deprecated the indiscriminate use of the cautery. He thought that a normal nose, considered from a surgical point of view, was one which offered no point of attack to the surgeon. He believed that asthma was the result of a nasal condition, and that he was perfectly justified in healing the nose though he could find objectively nothing to attack. He emphasized the importance of respiration through the nose; if a patient's nose was blocked up with polypi, and he is unable to breathe through it, that is the factor which starts asthmatic paroxysms, and not a reflex centre. The speaker thought one was justified in promising the patient more than one could accurately say was the whole truth; this was an important element in dealing with neurotic patients, but of course this practice might be abused. There were two sides to this question—the "practical" and the "scientific," and while the exact sequence of cause and effect might be open to criticism from the scientific side, from the practical side there could be no doubt as to the propriety of nasal treatment in cases of asthma.

Dr. DUNDAS GRANT thought that Dr. Theodore Williams ought to have been more impressed by the result of the first case he mentioned, where nasal treatment had been of such great service, and might with advantage have been carried out at a much earlier stage. Dr. Grant thought the discussion was too pessimistic on the one hand, and too sanguine on the other, and that the truth was far from these extremes. He then related the history of a case in his early practice in East London. The patient was a chronic sufferer from bronchial asthma, and a very remunerative client. He urged the removal of nasal polypi importunately; finally the man consented, and was practically cured. He had seen the mere act of treating the nose for asthma make the condition for the moment worse, though ultimately curing it. He had had a fair proportion of cases in which bronchial asthma had totally disappeared after nasal treatment. This was natural enough when one considered the class of cases likely to come into the hands of the nasal specialist. It was the duty of a physician, if treatment by drugs failed, to submit the case to the observation of someone accustomed to explore the nose, and capable of giving a reliable report as to whether or not an operation on the nose should be carried out. There should be a judicious combination of the medical and surgical treatments so as to give the patient a double chance of cure. Dr. Grant found the gouty diathesis well marked in a number of the cases which had been referred to him, an opinion confirmed by the beneficial effect of the administration of salicylate

of soda, a drug which he thought might with advantage be more frequently employed in the treatment of asthma. The galvano-cautery in some cases acted beneficially by pinning down the turgescient mucous membrane, but its beneficial effect was often no doubt due to its action as a counter-irritant. After the application of the galvano-cautery, he was in the habit of applying deliquescent trichloroacetic acid, which appeared to him to diminish the inflammatory reaction. Antipyrin in a 4 per cent. spray reduced the swelling, but it was irritating, and it ought therefore to be preceded by the application of eucain, which acted, so far as anæsthesia was concerned, like cocaine, and was in other respects freer from objection. Glycerine extract of suprarenal capsule applied in the form of a spray was often valuable as a vaso-constrictor.

Dr. CLIFFORD BEALE, in speaking of continued nasal treatment for asthma, described a case recently observed in which several operations had been performed from time to time until most of the interior of the nose had been removed. The attacks of asthma, relieved for a time after each operation, had regularly recurred. There was no evidence to show that the attacks arose from any sensitive point in the upper air-passages, whereas there were abundant morbid changes in the lower air-passages, which might equally well be assumed to be the starting-point of a reflex spasm. In the heart, also, one might look for such causes. Some years ago he had a run of such cases. Four boys, all occupied in work that involved considerable heart strain, and all about fourteen years of age, suffered from what appeared to be genuine asthmatic attacks, which were relieved by antispasmodic inhalations and rest. In these there was no reason to suspect any nasal reflex, but the attacks were far more likely to have found their origin in the overstrain of the immature heart. He quoted the observation of Dr. Moritz Schmidt to the effect that the nasal cavity, if carefully searched with a probe, might sometimes be found to present sensitive points, the irritation of which set up respiratory spasm. He thought that unless some definite evidence could be obtained that the source of irritation was in the nose, any operation except for the relief of obstruction was hardly justified.

Dr. WILLIAM HILL could not agree with the last speaker that it was "unjustifiable" to apply intranasal treatment unless a cough reflex was obtained; we had a plain duty to do the best we could for our patient, who rightly expected us to try not only every medical means, but also every surgical procedure which held out a

reasonable chance of affording relief. A cure, in the strict sense of the word, could not, of course, be promised, nor often even expected; but a fair measure of relief, amounting in some instances to a practical cure, might, in his experience, be looked for in considerably more than half the cases where asthmatic symptoms were associated with obvious disease in the nose. If practitioners neglected intranasal treatment because they could not promise their patients an absolute cure, they not only ran the risk of being scored off by more enterprising neighbours, but, what was more serious, they laid themselves open to the charge of not having done their duty and their utmost for their patient. It was necessary to speak thus strongly, because he feared that visitors at this debate, especially physicians who did not practise rhinology, would take away a very wrong impression of the attitude and experience of those who had dealt with a considerable number of cases of asthma with associated nasal disease. Not only was it necessary that a thorough examination of the nose should be made, in order that nothing abnormal might escape observation, but if intranasal treatment appeared to be indicated, it was essential that this should be carried out in a very thorough way. Half-measures were worse than useless, as they not only either failed to relieve at all, or led to early relapse, but unfortunately brought undeserved discredit on what was often a valuable remedial measure. He could not agree with Dr. Kidd's conclusions; but it was easy to understand difference of opinion here, as that physician, whose experience of asthma in general was large, frankly admitted that he had seen and treated very few cases indeed where there was a co-existing nasal factor. He desired to associate himself with the views of Dr. McBride, who had admirably summarized the scientific and clinical aspects of the subject, and whose practical suggestions on treatment all would do well to follow. Dr. Hill had not himself tried intranasal cauterization where there was no obvious morbid condition in the nose, but he had made a note of what the opener of the discussion had said on that subject. In conclusion, he thought he was considerably below the mark in asserting that marked relief might be expected in 50 per cent. of cases of asthma *plus* nasal disease, provided the nasal treatment was carried out with requisite thoroughness; overlooking a small morbid area might make all the difference. He had no doubt it was our duty to advise our patients to submit to these surgical procedures, which were, after all, not formidable ones.

Sir FELIX SEMON, in a short historical retrospect, referred to the publication by the late Prof. Hack, in 1884, entitled "Radical

Cure of Hay Fever, Asthma, etc.," in which that author endeavoured to establish the existence of an intimate connection between affections of the nose and asthma. Long before that time, however, cases had been noted by good observers, such as Voltolini, Bernhard, Fraenkel, and others, in which the mere removal of nasal polypi, not undertaken with any view to cure co-existing asthma, had been followed by that result, *i.e.*, the asthma attacks, which had formerly been very troublesome, either entirely disappeared, or became less intense after the removal of the polypi—returned, or became intensified, with the recurrence of the polypi, and improved again after renewed removal. This was a very clear proof that asthma may be positively produced from the nose, and it was certainly a grave fault to altogether deny such a possibility. Nor were nasal polypi, although in the speaker's experience by far the most obvious, the only cause of nasal asthma; other forms of nasal obstruction could produce this effect, such as great tumefaction of the nasal mucous membrane, considerable deviation or excrescences from the septum, etc. In no class of cases, however, was the connection more clearly established than in cases of nasal polypi. In the speaker's experience, relief might be given by nasal treatment in such cases, occasionally even when the asthma had been in existence for a long time, although the number of cases of the last-named category in which he had obtained satisfactory results was extremely small. Altogether, the number of cases in which a short-lived success had been obtained was in his own experience infinitely greater than the number of those in which a long-lasting relief had been afforded. He himself had never been able to produce an asthmatic attack from the nose by exploring that cavity with the probe. In one single instance only had he been able to produce very violent paroxysmal cough by that method of investigation. With such experiences, he asked himself, what was one to tell a patient in whom asthma existed together with nasal disease? They had heard that afternoon diametrically opposed opinions in reply to that question. He invited them, however, to consider the enormous number of cases of asthma that had been treated since Hack's publication by intranasal interference. How small in proportion to these had been the number of those cases in which a real cure, or, at any rate, a long-lasting improvement, had been seen even by the warmest advocates of that treatment! In view of that fact, was one justified in promising any definite success to a patient? And what had struck him most in this discussion was that no mention had been made of those, in his experience most frequent cases, where *no results had been obtained*

at all! Personally, he divided these patients into three classes: (a) Lasting success obtained, exceedingly small percentage; (b) temporary benefit, comparatively large percentage; (c) no success at all, very large percentage. Now, considering that he had to frankly confess that he was himself unable to make out beforehand, by any method of examination whatever, to which of these three classes the individual patient would ultimately belong, what was the treatment in such cases but an "experimental" one? He stuck to this word most emphatically. He was in the habit of telling those patients suffering from asthma, in whom considerable nasal abnormalities existed: "Undoubtedly in a number of cases such as yours, in which the nose is treated, relief has been obtained; whether in your own case relief will be permanent or temporary, or whether there will be no relief at all, I cannot tell you beforehand. If your sufferings are great, and if you should like to undergo this treatment, I consider your case a legitimate one for it, but you must understand that it is purely experimental." He had not found that his patients misunderstood so simple a statement.

Dr. STCLAIR THOMSON suggested the addition of a fourth class to Sir Felix Semon's classification, viz., those who were considerably damaged by the intranasal treatment. He had met these cases, who had suffered from a too forward policy of the nose and throat, at foreign health resorts, trying to get back their lost mucous membrane. He thought that in some cases of asthma the nasal conduction may be causal, but in many cases it was consequential.

Dr. LAMBERT LACK thought the undoubtedly frequent relation of asthma to nasal disease was not a simple reflex. He was very surprised to hear Dr. McBride's statement, on which he laid particular emphasis, that an irritant applied to the nasal mucosa may effect molecular changes in a centre which is responsible for asthma. In his experience he had never met with a single case in which irritation of the nose, as by probing, had produced an asthmatic attack, and he would much like to know if any other member had met with such a case. Dr. Thorowgood and others who supported this theory quoted instances in which cough had been produced. This Dr. Lack thought a not very uncommon result of nasal irritation, but he could not admit that a true asthmatic attack could be experimentally excited in such a way. He could add one case to those which had been cited, in which asthma was closely related to adenoid growths. The patient was a child, the subject of inherited asthma and gout. Removal of the adenoids was followed by complete freedom from asthmatic attacks; eighteen months later the asthma returned, and on examination

there was found to be recurrence of the adenoids with nasal obstruction. Operation for the relief of the nasal obstruction was again followed by complete cessation of the asthma.

The PRESIDENT said they might be reasonably satisfied with the result of this discussion, which was of great interest; to a certain extent the atmosphere was clarified. They had heard extreme views from both sides—those who thought no good was to be obtained, and those who believed that most benefit is derived from the adoption of intranasal treatment. Personally, he took the middle course, and he was quite certain that he had seen in a very fair proportion of the cases considerable and permanent relief; he mentioned the case of a lady whose polypi had been removed, and who had spent the winter in the Riviera, who had severe asthma, from which she had been practically free for the last year. He thought they would all agree with the remark made by Goodhart that the “chronic asthmatic was almost as hard to cope with as the chronic epileptic,” and they must not expect to work miracles, or they would be disappointed. They should look to getting hold of the cases at an earlier stage, when relief is more easily given, especially in the case of adenoids.

Dr. PERCY KIDD said that his remarks had been misunderstood in some respects. He said that if there was obvious disease of the nose, local treatment was advisable, though the uncertainty of the result as regards the asthma should be clearly explained to the patient.

Dr. McBRIDE said that owing to the kind reception his remarks had received, there was little left for him to reply to. With regard to the question of adenoids and asthma, he said that he had often seen cases where the patients were said to be asthmatic, but on inquiry it was generally found that the difficulty in breathing was due to the local causes. He had, however, on one occasion, as mentioned, immensely relieved a truly asthmatic child by removing adenoids. Questions had been asked as to the cure of asthma, but he considered that asthma, like epilepsy, could hardly be considered cured so long as the patient lived. He mentioned several cases illustrating the fact that asthma can be much benefited by local treatment of the nose, both in polypi and hypertrophic conditions. With regard to Dr. Beale's remarks, he begged to observe that he had never seen asthmatic paroxysms produced by touching the mucous membrane, but he would again refer to the great importance to be attached to the presence of a cough reflex in cases of suspected nasal asthma. With regard to Dr. Theodore Williams's remarks, Dr. McBride thought that they showed that laryngologists must be

singularly devoid of the power of expressing their meaning clearly—it would not, of course, be proper to suggest another alternative. He failed altogether to see how Dr. Williams could have arrived at the conclusion that most of the speakers thought local treatment useless in asthma, and it would be a thousand pities that his remarks should be published as a serious contribution to the debate. Dr. McBride had no doubt that his words were spoken in jest, but every reader of the report might not be aware of this. With regard to Dr. Lambert Lack's criticism, he would refer him (1) to the fact that reflex nasal asthma was generally admitted to exist; (2) to the experiments of Lazarus, which had been confirmed by Sandmann. It has thus been shown that irritation of the nasal mucous membrane can produce spasm of the bronchi, and that such spasm ceases after section of the vagi.

AMERICAN OTOLOGICAL SOCIETY.

Dr. E. GRUENING. *Case of Otitic Brain Abscess (Right Temporo-sphenoidal), causing Subdural and Extradural Abscesses in the Posterior Fossa through a Fistulous Track.*

(A boy was admitted to the Mount Sinai Hospital in a state of stupor; an operation was performed, and subsequently he died. At the autopsy, the conditions mentioned above were found.)

The patient, aged seventeen, had had post-scarlatinal otitic suppuration in the right ear since infancy. A few days before admittance, the discharge having ceased, severe headache, followed by drowsiness and stupor, set in; at the time of examination the whole mastoid region was intensely tender. Immediate operation being decided upon, the usual incision was made; pus welled up at the first stroke of the chisel, and when the lateral sinus was exposed, pus was seen around it, leading into both middle and posterior fossæ. The antrum, adjacent cells, and middle ear were opened up and laid into one, and cleared of granulations and cholesteatomata; the malleus was also removed. The middle fossa, exposing the dura, was brought into view, but nothing abnormal was found. The entire bony wall over the sinus was taken away, and pus seemed then to escape from the posterior fossa; the field of operation was thoroughly cleansed, packed, and dressed. During eight subsequent days the boy brightened up and did well, the temperature falling, and ranging from 99° to 101°. On the ninth day the temperature rose to 103·4°, severe headache returned, and the patient lapsed again into stupor. A second operation was then undertaken with-

out anæsthesia. On probing over the sinus upward and inward with a spoon, about 5j of foul-smelling pus came out; the bony wall of the sinus was then still further removed, and by working upwards the temporo-sphenoidal lobe was exposed. Pus was detected with the aspirating needle; and when the dura was incised, some jelly-like brain substance and pus were pressed out. With the finger a large abscess cavity could be felt. At the autopsy, nine days after, this abscess was seen to open at the base by a fistulous track, and in the brain it communicated with one in the descending horn of the lateral ventricle. The tentorium was perforated at a point corresponding with the orifice of the fistula. (An illustration, taken from a photograph, accompanies this paper.)

Dr. GREEN asked where the pus went to through the tentorium. Was it extradural?

Dr. GRUENING: Into the posterior fossa. It was certainly extradural.

Dr. HERMAN KNAPP. *On the Functional Examination of the Ear, with an Exhibition of Bezold's Continuous Tone Series.*

A correct examination of the hearing functions of the ear implies the determination of the patient's capacity for perceiving the different qualities of sound—viz., intensity, pitch, and clang-tint. The laws of *clang-tint* have not yet been applied to practical otology. The *intensity* of sound, being the means of finding out the patient's *acuteness of hearing*, is the most important object of inquiry. The watch and acoumeter still hold their position as tests for the hearing capacity of noises; but *noises*, like tones, are musical sounds, and are transmitted to the hearing centre through the cochlea, the nerves of the semicircular canals having nothing to do with this. The *human voice* is recognised as the best test for hearing; but our hearing tests have more or less a *personal character*, and a uniform system for recording them is still a desideratum. The *graphic method* of Hartmann requires a diagram, and though it expresses the hearing acuity as so much per cent. of the normal, very comprehensively under certain conditions, it is too cumbersome and tedious for general use. The examination of the *pitch of sound* is done chiefly with tuning-forks, but they require a good deal of circumspection for three reasons—viz., the frequent complications of conductive with perceptive disease, the difference between the hearing in both ears, and the impossibility of shutting one ear completely off. Dr. Knapp has found *Denner's test* sufficient for practical purposes in the important *diagnosis of one-sided deafness*. First test the better ear, then close it, and examine

the hearing of the bad ear. Next close both, examine the bad ear again, and note the difference in its hearing when it alone is open and when both are closed. If the hearing is markedly better when the bad ear is open, it is not absolutely deaf; if, when the bad ear is open and the good closed, the hearing is no better than when both are closed, one can only infer that the hearing power of the bad ear is below the hearing by bone conduction of the other. Dr. Knapp then described (2) Weber's test (observing that it would be conclusive if it did not require a good power of observation), and (3) a test he has used for many years, and published in the *Arch. of Otology*. A tuning-fork is heard in puff-like enforcements when it is passed up and down the meatus of the healthy ear, but evenly, or with only faint puffs, when passing the meatus of the bad ear. When the bad ear are held closed, the sound perception is even, entirely from the other ear, as the enforcements from the air column in the bad ear is annulled. The *diagnosis of one-sided deafness* is very important in *suppurative or other destructive disease*, as it shows that the labyrinth is involved. Dr. Knapp had very recently availed himself of the above tests in a case of chronic discharge from one ear, for which he did an extensive mastotomy. Bezold's continuous tone series is the only unobjectionable means of demonstrating one-sided deafness. Bezold found that in labyrinthless ears the hearing through the left ear repeated all the peculiarities of the hearing field of the other, the hearing score of the bad ear being only a fainter repetition of the other's, a proof that all its hearing came from the other ear. The tone-rests preserved in the hearing organs of deaf-mutes comprise only certain groups of tones, and the aptitude of the pupil to learn spoken language depends upon them. The register of our vowel sounds lies between C^1 and G^2 , and the more of that is preserved in his ear, the easier the deaf-mute learns to speak. So correct a prognosis can be founded upon this fact, that the Bavarian Government has made an entrance examination of each pupil as to his hearing-rests obligatory in their large deaf-mute institute, and his plan of education is shaped accordingly.

A lengthened discussion followed this paper.

Dr. BLAKE had used Dr. Knapp's test from its first mention as a control experiment, but he used a small fork—physical C 562—so feeble that the head casts a definite shadow to it; and when the fork is tried opposite the bad ear, the sound cannot be heard by the good one. The test had proved most valuable in measuring the hearing, in detecting malingering, and in testing the permanence of the patient's mental impression of tone. As a control test, he

had used a tuning-fork of the same size and pitch ; but by a simple process of prolonging one arm about half a millimetre, the tone is lowered sufficiently to get a series of beats, and by thus graduating down to $\frac{1}{16}$ beats, and testing first the sound ear, then the bad one, after Knapp's method, he had been able to detect very slight differences between the two ears. Patients did not expect a difference between the forces as shown by the beats, they looked for a continuous tone, hence the value of the test.

Dr. GREEN remarked on the gain that would be derived from a uniform designation of forks by the number of vibrations, and the v. s. or v. d. Thus, at his clinics at Boston he had long insisted that his assistants should write in full in this way for the Weber test, F. 512, v.s. $R > L$; and in the same way with the Rinné test,

$$F. 256, v.s. \frac{a}{b} \frac{c}{c} R. \frac{30}{15} L. \frac{10}{25}.$$

Dr. KNAPP was glad the question had been brought up. He advocated the following scale: The subcontra octave, beginning with C^2 , the lowest tone perceived of sixteen vibrations (double); next, the contra-octave, beginning with C^1 , or the contra C; then the large C (omitted in Politzer's book), the small octave C, the once marked C^1 , twice marked C^2 , etc., up to A^8 , with about 55,000 vibrations. This was the accepted notation all the world over, and every country used the double-vibration scale except France. He saw no necessity for v.s. or v.d. and the number of vibrations after each letter.

Dr. GREEN did not think Dr. Knapp's method sufficiently expressive; he compared the present standard of forks with that of a hundred years ago, which was far down below it. C^1 did not necessarily express double vibrations, hence the only perfectly clear way was to state actually the number of vibrations.

Dr. BLAKE agreed as to the confusion at present existing. He had tried to get over the difficulty by using the untempered scale as used in physics. He began with a fork of 562 vibrations as a starting-point. Musical pitch was constantly tending upwards, the increase during the last few years running as high as $2\frac{1}{2}$ or 3 per cent.

Dr. JOHNSON preferred to adhere to Dr. Knapp's standard. He did not think this society could suggest a system for universal acceptance, but thought perhaps an international congress could.

Dr. ALDERTON. *Trephining the Stapedial Footplate for Otitis Media Sclerosa.*

A young lady complained of deafness and tinnitus in both ears, more marked in the right, on December 10, 1896. Whisper was

heard in the right ear $4\frac{1}{2}$ feet for the most audible sentences, Eustachian tube free. After treatment for a time on the usual lines without improvement, exploratory myringotomy was recommended. In March, 1897, under cocaine, the posterior superior quadrant of the drum membrane was turned down as a flap, the base of which was on a level with the umbo. A slight improvement in hearing followed: accordingly the stapedius tendon was at once cut, the incudo-stapedial joint disarticulated, and the incus removed through the perforation. Neither malleus nor stapes was disturbed, there was no further improvement, and tuning-fork tests after healing showed no change. Six months later, in response to the patient's urgings to have something else done, it was resolved to turn down the flap again and remove the stapes, but when traction was made with the hook, the crura came away and the footplate remained behind. After the dizziness had subsided, whisper was heard about 18 feet; next day it was only heard 9 feet, and in a few days it returned to the original distance. The footplate had evidently been mobilized temporarily, but union recurred and with it the deafness. Finally at the instance of the patient, trephining the footplate was resolved upon. In January, 1898, with Drs. Braislin and Morrow, the postero-superior quadrant was again turned down, and the stapedial footplate drilled through with a guarded trephine; labyrinthine fluid escaped, no dizziness followed, but the patient complained of autophony, bubbling noises in the ear, and other sensations. By February 19 the fenestra ovalis was hidden by cicatricial tissue under the posterior fold; whisper was heard 3 feet, speech 3 feet; tinnitus, hearing, and everything else just the same as before the operation. Dr. Alderton concluded that in sclerosis nothing permanent was gained by removing or breaking through the footplate of the stapes, and on the whole, counsels against the operation. The patient, however, had written a letter in September, 1897, describing herself as feeling generally clearer and more comfortable in the head, hearing better in general at longer distances, in larger places, and with less effort. Examination on September 8 showed whispers audible in left ear 16 feet, right ear 2 feet; perforation nearly closed; improvement in the unoperated ear, therefore, though not in the one operated upon.

Dr. KNAPP asked if any gentleman had had any results from mobilization of the stapes. He thought the arguments were in favour of removal of the footplate.

Dr. JACK agreed, alluding to his published cases; in nearly all, numbering over sixty, the footplate had been left. Two cases

which he had followed up till recently, retained their improved hearing for three years.

Dr. BLAKE thought the crura broke in these cases of ankylosis owing to attenuation from malnutrition. He had kept two cases of attempted extraction with breaking of the crura under observation for five years, and in both there had been a slight improvement, though none in the first year. He recalled a case in which a distinct flow of labyrinthine fluid followed removal of the stapes; the hearing remained good so long as the flow continued, and afterwards returned to *nil*.

Dr. THEOBALD asked Dr. Jack if the oval window remained open for several years after removal of the stapes.

Dr. JACK: Yes.

Dr. THEOBALD: Was there a flow of labyrinthine fluid?

Dr. JACK: No; neither at the operation nor after.

Dr. SHEPPARD had hoped a feasible plan would be brought forward for removing the footplate. In one of his cases in which both stapes were removed, a marked improvement in hearing for conversation had continued whilst under observation for three years.

Dr. CROCKETT recalled two cases in which total deafness had followed interference with the stapes. In one the hearing for the watch was $\frac{2}{60}$, whisper 3 feet. On cutting the stapedius tendon, after disarticulating the stapes, the patient exclaimed that he could hear nothing; the stapes was then removed, but the deafness became permanent, and a loud pulsating tinnitus began, which continues still. The second case was similar, and Dr. Crockett believed the process to have been a hæmorrhage into the labyrinth, perhaps from rupture of capillaries at the moment the labyrinthine pressure is relieved. He believed that no form of middle-ear operation was free from danger of permanent decrease of hearing. On the other hand, he had a case in which mobilization of the stapes, the other ossicles having been removed, always relieved intense attacks of nausea and vomiting to which the patient was subject.

Dr. ALDERTON, replying, confirmed a statement by Dr. Blake that the operation improved hearing for high tones. He thought Dr. Jack's favourable cases were probably in the first stages; he had had no bad results.

PEGLER.

AUSTRIAN OTOLOGICAL SOCIETY.

Sitting of November 29.

Monatschrift für Ohrenheilkunde, December, 1898.

President: PROFESSOR GRUBER. *Secretary:* DR. POLLAK.

PROFESSOR URBANSCHITSCH. *A Case of Speech-deafness in a Boy.*

History of a fall and subsequent headache. Perception of musical notes good, at least to six octaves. No objective signs. Sometimes he seems suddenly to understand a sentence.

Dr. ALT suggested hysteria.

PROFESSOR POLITZER. *Notes on the Attic: Normal and Pathological.*

A series of preparations from the new-born child showing the various stages of the retrogression of the embryonal mucous cushion. It disappears first from the promontory and tympanum proper, whilst the head of the malleus and body of the incus are still quite surrounded. Next it disappears from the inner attic, and last of all from the outer attic and Prussak's space.

The outer attic possesses a certain degree of independence anatomically, suppuration is often enough limited to it, and even when the whole middle ear is affected, the process tends to be most intense in the outer attic.

Illustrative preparation shown from a woman of thirty.

Dr. ALT. *Two Cases of Suppurative Thrombosis of the Transverse Sinus.*

The patients were aged twenty and twenty-three, and had suffered since childhood from otorrhœa. Both had fever of pyæmic type, rigors, pain on turning the head to the affected side, tenderness on pressure behind and below the mastoid process. The middle ear, antrum, and a cavity in the mastoid were full of cholesteatoma, reaching almost to the sinus. There was a septic abscess round the sinus, and its walls were discoloured and motionless. It contained brownish-black thrombi, and there was no bleeding. Both cases did excellently.

A Case of Cerebellar Abscess.

A patient, on whom the radical operation had been performed for cholesteatoma, was seized a fortnight after operation with rigors and became comatose. At the upper and back part of the wound there was a discoloured area of bone. On opening this,

fœtid pus escaped, there was a fistula in the dura, and a channel leading towards the cerebellum. Double pneumonia came on, and the patient died.

Post-mortem.—An abscess as big as a nut in the left cerebellar hemisphere. The opening was at the junction of the horizontal and vertical parts of the sinus.

Dr. BIEHL. *Case of Suppurating Cholesteatoma and Extradural Abscess in which Sigmoid Thrombosis occurred, and the Jugular Vein was tied.*

Dr. AR. SINGER. *A Case of "Psychical Deafness."*

H. B—, aged four, a lively, intelligent boy, heard perfectly till July, 1898. One day the father noticed that when the child was told to do anything he did not seem to understand, but did something different. He ceased to notice the military bands passing in the street, which used to delight him. A month later Dr. Singer saw him. He seemed to take little interest in anything, and would sit staring into vacancy. Examination of the ears was negative.

Bone conduction was apparently shortened. He heard the tuning-fork, but objected to it on his head; it seemed to cause pain or discomfort. In front of the ear there was some loss of hearing for high notes: low notes were better heard. He heard all the notes of the harmonica. Sounds intensified by the ear-trumpet he heard well, but disliked. His pronunciation became indistinct.

There was a slight growth of adenoids—not enough to cause any symptoms—but they were removed (without any anæsthetic), with the idea of producing strong mental impression. Great improvement followed at once. The child became bright and lively. He heard again the military bands, the bells of passing bicycles, the noise of children playing, etc. Asked, "Will you have so-and-so?" (something he was fond of), he assented with alacrity.

The very marked improvement did not continue, and the boy relapsed considerably, but not entirely. His mental condition was better, and he noticed his surroundings. The expression "psychical deafness" was first used by Dr. Heller for the speechlessness of idiots, but it cannot be limited to them.

Perhaps there was some functional paralysis of the auditory, but the long duration is unusual. Depression, fright, or excitement may cause deafness, and auditory neurasthenia has been described by Cozzolino. There is also sudden "rheumatic" and hysterical deafness.

Dr. HAMMERSCHLAG thought organic disease could not be excluded. The symptoms described were not typical of "psychical

deafness," but common to diseases of both conducting and perceiving apparatus. What of auditory neuritis?

Dr. BIEHL agreed with Dr. Hammerschlag.

Dr. ALT suggested sensory aphasia.

Professor GRULIER thought a clear clinical picture of "psychical deafness" hardly possible at present. There were circumscribed inflammations of the middle ear beyond our diagnosis, and we must not too hastily assume primary disease of the labyrinth.

Dr. SINGER. *Dermoid Cyst of the Auricle.*

A girl of nineteen with a smooth, elastic, somewhat doughy swelling the size of a small apple occupying the upper half of the posterior surface of the left auricle, filling the angle between the ear and the head, and fluctuating distinctly. It has grown rapidly during the last four years, but was noticed in infancy the size of a lentil-seed.

History.—Long duration and absence of translucency point to dermoid cyst.

Dr. SINGER. *Bleb-like Cicatrix and Foreign Body.*

A woman of thirty-nine with a history of chronic otorrhœa complained of stabbing pain in the left ear. On the membrana tympani a bleb-like cicatrix, stretched by constant inflation, was present. This was blown into ribbons by a strong inflation, and hearing greatly improved. Stabbing pain continued, and was put down to otitis externa, till one day a rusty bit of needle over 1 cm. long came away on the dressing.

Dr. HAMMERSCHLAG. *Brain with a Chronic Abscess involving Posterior End of Second Left Temporal Convolution, Softening of White Substance of Corresponding Lobe, and Purulent Meningitis.*

The patient could not name objects, using the same word for everything, but she recognised the right name when spoken. She could read print or writing, apparently understanding; she could write from copy or dictation, or even spontaneously, making many mistakes in the latter case.

WILLIAM LAMB.

SEVENTIETH CONGRESS OF GERMAN SCIENTISTS AND PHYSICIANS—DEPARTMENT OF OTOTOLOGY (*Conclusion*).

Third Sitting, September 20, 1898.

Monatschrift für Ohrenheilkunde, December, 1898.

President: HOPMAN (Cologne).

I. A. HARTMANN (Berlin). *The Anatomy of the Frontal Sinus and its Opening.*

He distinguishes five types :

(a) There are no frontal cells and the sinus extends down to the attachment of the middle turbinal. The exit is either a broad cleft or a simple opening, not a canal.

(b) The nasal part of the sinus is replaced by "frontal" cells, between which a canal of varying form and direction is left.

(c) Type in which medial frontal cells exist and in which the frontal sinus is developed from these frontal cells.

(d) With irregular formation of the frontal cells.

(e) Absence of the frontal sinus.

To establish communication with the nose, Hartmann uses two openings : (1) The ordinary one in the anterior wall of the sinus ; (2) one placed laterally from the root and bridge of the nose, exposing the frontal cells. He breaks through into the nose with bone-forceps.

II. Dr. GUZMAN (Berlin). *On the Normal Movements of the Velum Palati in Speaking.*

The observations were made on a patient in whom one eye and parts of the bony walls of the orbit had been removed for malignant growth, so freely that the movements of the palate could be seen from the empty orbit. Guzman modelled exactly the different positions of the palate and neighbouring parts during the various stages of the act of speaking, and each model was complete, being fitted into an ideal antero-posterior section of a head (in plaster). By photographing these models he succeeded in getting a series of views suitable for use in the kinematograph, so that the movements were rendered visible.

During movement the velum falls into two sections—a horizontal and a vertical. At this point of junction the palate touches the posterior wall of the pharynx. A swelling on the posterior wall—Passavant's cushion—meets the palate and makes the contact still closer.

The vertical portion—the uvula and parts above—have nothing to do with the shutting-off function of the palate during speech, and may be removed without affecting speech.

GUZMAN's other results are as follow :

(1) When the palate is raised, its bow-shaped curve is bent at an angle ; at the point of the angle most of the levator muscle is inserted, and a dimple can be seen from the mouth.

(2) The horizontal part of the soft palate rises during vigorous elevation, above the level of the hard palate, making with it an angle of 10° to 20° . As the levator cushion rises, the Eustachian tubes approach the middle line, and longitudinal folds form on the upper surface of the palate.

(3) The vertical part of the velum is not generally applied to the posterior wall, but hangs obliquely forward.

(4) The wall of the pharynx presents a transverse swelling close to the insertion of the pterygo-pharyngeus, corresponding to the spot touched by the palate.

(5) Even with the greatest contraction of the levator, the tubal openings are never quite closed—only narrowed.

III. RÖPKE (Solingen). *Farther Report on the Radical Operation for Chronic Empyema of the Upper Nasal Accessory Sinuses.* (See Archiv. f. Laryngologie, Bd. VIII., 2, for details of method.)

Sixteen cases were all quite successful except one, a weakly girl. Röpke always chisels open the frontal sinus as a preliminary measure on account of the numerous anatomical variations. He claims that :

(a) Even very chronic cases can be cured with reasonable certainty.

(b) As a rule disfigurement is not serious.

Dr. LEVI expressed surprise at the large number of cases. This Röpke explained by the nature of the local industries (iron and steel).

IV. Prof. NIKITIN (St. Petersburg). *Cases from Practice.* (1) *A Case of Nasal Hydrorrhœa.*

A girl of eleven had suffered since infancy from a discharge of muco-pus from the nose. After removal of some adenoids the muco-pus disappeared, but a watery discharge persisted, and this was eventually cured by the use of tonics and astringents internally (iron, arsenic, hydrastis, atropin), and a weak zinc lotion.

Nikitin regards most cases of hydrorrhœa as due to paresis of vaso-motor nerves of the nasal mucosa, often reflex, as in this, from the adenoids.

(2) *Primary Tuberculosis of the Epiglottis.*

The patient had some pain in swallowing, and dry cough for five years before he came to Nikitin. The epiglottis was greatly thickened and infiltrated, but not ulcerated. The diagnosis having been confirmed by microscopic examination, the disease was removed with the galvano-caustic loop, and 50 per cent. lactic acid applied to the wound.

The patient attributed his illness to the fact that in the course of his work at the Archives Office he had to examine many old books and documents, and used to moisten his finger-tips with his tongue in turning over the pages.

(3) *Abscess of the Septum* apparently due to influenza in a girl of thirteen. Both nostrils were blocked, and there was an abscess on each side of the cartilaginous septum. The cartilage was stripped of perichondrium, rough and tender, but there was no perforation.

V. Dr. ZAALBERG. *On Aristol in Aural Surgery.*

In cases of the radical operation it reduces discharge, limits the growth of granulations, and favours the growth of epidermis. The sharp spoon is less frequently required, and tight plugging of the wound may be dispensed with. It seems to form a sort of pellicle which exerts a gentle continuous pressure on the surface of the wound. It is blown on to the wound mixed with equal parts of boracic acid.

WILLIAM LAMB.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, LONDON.

AUGUST 7 TO 12.

Programme :

GENERAL DISCUSSION.

A GENERAL discussion on "Indications for opening the Mastoid in Chronic Suppurative Otitis Media" will be opened by Professor Knapp (New York), Dr. Luc (Paris), Professor William McEwen (Glasgow), and Professor Politzer (Vienna).

COMMUNICATIONS ANNOUNCED.

I.—Normal and Pathological Anatomy.

(*Anatomie normale et Anatomie pathologique.*)

1. Birmingham, Dr. A. (Dublin).—"The Topography of the Facial Nerve in its relation to Mastoid Operations, with Specimens."
2. Cheattle, Mr. A. H. (London).—"The Petro-Squamosal Sinus."
3. Costiniu, Dr. (Bucharest).—"L'état des oreilles, du larynx, et du nez observé chez les vieillards."
4. Cozzolino, Professor Vincenzo (Naples).—"Contribution à l'histologie du squelette des cornets pour la pathogénèse de l'ozène" (avec démonstration).

5. **Denker, Dr.** (Hagen).—"Zur Anatomie des Gehörorgans der Säugethiere, mit Demonstration von Präparaten und Zeichnungen."
6. **Rutten, Dr.** (Namur).—"Présentation d'une exostose du conduit auditif droit."

II.—Physiology and Methods of Examination.

(*Physiologie et Méthodes d'Exploration.*)

7. **Baratoux, Dr. J.** (Paris).—"L'unification et la mesure de l'ouïe."
8. **Bonnier, Dr. Pierre** (Paris).—"Un procédé d'acoumètrie."
9. **Gradenigo, Professor G.** (Turin).—"Sur l'examen fonctionnel de l'organe de l'ouïe, et sur la notation uniforme des résultats."
10. **Kayser, Dr. Richard** (Breslau).—"Experimentelle Untersuchungen über acustische Phaenomene in flüssigen Medien" (mit Demonstration).
11. **Schmiegelow, Dr. E.** (Copenhagen).—"On a New Method of measuring the Quantitative Hearing Power by means of Tuning-forks."

III.—Pathology and Therapeutics.

(*Pathologie et Thérapentique.*)

12. **Avoleo, Professor** (Milan).—"Due casi di complicazioni patologiche della faccia in seguito a propagazione di un processus suppurativo acuto dell'Orecchio Medio e Esterno."
13. **Avoleo, Professor** (Milan).—"Risultati della chirurgia intra-timpanica nei riguardi della funzione acustica, ma solo per la forma suppurativa."
14. **Baber, Mr. Cresswell** (Brighton).—"Turbinotomy in Nasal Obstruction."
15. **Bar, Dr. Louis** (Nice).—"Abeès antérieurs de la mastoïde et furonculose du conduit auditif externe."
16. **Bobone, Dr. T.** (San Remo).—"L'involution précoce du tissu adénoïdien sur la Riviera."
17. **Brieger, Dr. O.** (Breslau).—"Über Tuberculose des Mittelohrs."
18. **Cheatle, Mr. A. H.** (London).—"A Case of Adenoma of the Meatus in a Patient suffering with Chronic Middle-ear Suppuration."
19. **Costiniu, Dr.** (Bucharest).—"Résultats des exercices-acoustiques chez les sourds-muets."
20. **Cozzolino, Professor Vincenzo** (Naples).—"Statistiques des mastoïdotomies simples et radicales, et des opérations de chirurgie oto-endocrânienne pratiquées dans ma Clinique universitaire depuis l'an 1883."
21. **Cozzolino, Professor Vincenzo** (Naples).—"Pseudo-actinomyces ariculaire externe avec ostéomyélite diffuse à la zone mastoïdienne, causée par un nouveau bacille filamenteux pyogénique" (avec démonstration).
22. **Cursetjee, Dr. J. J.** (Bombay).—"Some Aspects of Aural Practice in India, with special reference to Bombay."
23. **Dadysett, Dr. H. J.** (Bombay).—"A Paper on various Domestic Remedies, with their Effects, used by the People of India for certain Diseases of the Ear."
24. **Delie, Dr.** (Ypres).—"Panotite avec complication cérébrale—opération—mort—autopsie."
25. **Dench, Dr. E. B.** (New York).—"The Operative Treatment of Mastoid Inflammation."
26. **De Santi, Dr. P.** (London).—"The Radical Cure of Chronic Suppurative Otitis Media by Antrectomy and Attico-Antrectomy, with Notes of Thirty Cases."
27. **De Santi, Dr. P.** (London).—"Some Cases illustrating the Intracranial Complications of Neglected Otorrhœa."
28. **Eeman, Professor** (Ghent).—"La sclérose de la caisse tympanique."
29. **Faraci, Professor Giuseppe** (Palermo).—"Sulla possibilità di riaprire la finestra ovale nei casi di anchilosi ossea della articolazione stapedo-vestibolare."
30. **Faraci, Professor Giuseppe** (Palermo).—"Importanza acustica e funzionale della mobilitazione della staffa."
31. **Faraci, Professor Giuseppe** (Palermo).—"Utilità della miringectomia temporanea e consecutiva mobilitazione di tutta la catena degli ossicini"

nel periodo sub-acuto di un otite catarrale decorsa senza perforazione timpanica."

32. **Fischenich, Dr. Fr.** (Wiesbaden).—"Die Behandlung der katarrhalischen Adhäsivprocesse im Mittelohre, durch intratympanale Pilocarpininjectionen."
33. **Garnault, Dr. Paul** (Paris).—"Mobilization (two years ago), and Extraction (one year ago) of the Stapes, in the same Patient, with great Improvement in Hearing and Typical Phenomena."
34. **Garnault, Dr. Paul** (Paris).—"Mobilization (three years ago) of the Stapes in a Man Seventy-two Years of Age, Deaf for Forty Years, absolutely so for Fifteen, with great and permanent Improvement in Hearing."
35. **Garzia, Dr. Vincenzo** (Naples).—"Experimental Study of the Influence of Malaria in Disease of the Ear."
36. **Goldstein, Dr. M. A.** (St. Louis, U.S.A.).—"Therapy of the Nasal Mucous Membrane."
37. **Grant, Dr. Dundas** (London).—"Diminished 'Bone-conduction' as a Contra-indication for Ossiculectomy."
38. **Gray, Dr. Albert** (Glasgow).—"A Case of Unilateral Deafness caused by a Tumour of the Medulla, producing other Remarkable Symptoms—Post-mortem" (with microscopic slides of the medulla).
39. **Grazzi, Professor V.** (Florence).—"Nuovo cura delle faringiti catarrali croniche in rapporto specialmente alle malattie dell'orecchio."
40. **Haight, Dr. Allen T.** (Chicago).—"Naso-Pharyngeal Adenoids as a Causative Factor in Ear Diseases."
41. **Heiman, Dr. Th.** (Warsaw).—"De l'inflammation primaire de l'apophyse mastoïde."
42. **Keiper, Dr. Geo. F.** (La Fayette, Ind.).—"A Description of a Set of Mastoid Gouges."
43. **Lacroix, Dr. P.** (Paris).—"Complications otiques de l'ozène."
44. **Laurens, Dr.** (Paris).—"Otite moyenne chronique suppurée avec thrombose du sinus latéral et abcès du cervelet."
45. **Lermoyez, Dr. Marcel** (Paris).—"La contagiosité des otites moyennes aiguës."
46. **Lubet-Barbon, Dr.** (Paris).—"Note sur les abcès aigus de l'apophyse mastoïde sans abcès de la caisse."
47. **Lucae, Professor W.** (Berlin).—"Zur Radicaloperation bei chronischer purulenter Mittelohrentzündung."
48. **Malherbe, Dr.** (Paris).—"Traitement chirurgical de l'otite moyenne chronique sèche par l'évidement pétro-mastoïdien, avec et sans tubage."
49. **Melzi, Dr. Urbano** (Milan).—"A Case of Retropharyngeal Abscess of Auricular Origin."
50. **Melzi, Dr. Urbano** (Milan).—"A Case of Nasal Hydrorrhœa."
51. **Melzi, Dr. Urbano** (Milan).—"A Case of Endothelioid Fibroangioma of the External Auricular Canal."
52. **Ménière, Dr. E.** (Paris).—"Traitement des suppurations chroniques de l'attique."
53. **Milligan, Dr. W.** (Manchester).—"Some Observations upon the Diagnosis and Treatment of Tuberculous Disease of the Middle Ear and adjoining Mastoid Cells."
54. **Mink, Dr. P. J.** (Zwolle).—"Pneumamassage unter höherem Drucke."
55. **Moure, Dr. E. J.** (Bordeaux).—"Sur quelques cas de complications endocrâniennes d'origine otique."
56. **Moure, Dr. E. J.** (Bordeaux).—"Sur quelques points de technique à propos de la trépanation de l'apophyse mastoïde."
57. **Nuvoli, Dr. G.** (Rome).—"Sulla cura pneumatica nelle malattie dell'orecchio."
58. **Ostmann, Professor** (Marburg).—"Ueber die Heilbarkeit bisher unheilbarer Schwerhörigkeit durch Vibrationsmassage des Schalleitungsapparates."
59. **Passow, Professor** (Heidelberg).—"Chirurgische Eingriffe bei Sklerose und bei Ménièreschen Symptomen."
60. **Poltzner, Professor Adam** (Vienna).—"On the Extraction of the Stapes, with Demonstrations of Histological Preparations."
61. **Rohrer, Dr. F.** (Zurich).—"On Blue Ear-drums, 'Tympanum Cœruleum.'"

62. **Rohrer, Dr. F.** (Zurich).—"The Appearance of Varices on the Ear-drums."
63. **Rudloff, Dr. P.** (Wiesbaden).—"The Operation of the Removal of Adenoid Growths with the Head hanging over the Table while the Patient is under the Influence of Chloroform."
64. **Ryerson, Dr. G. Sterling** (Toronto).—"Objective Noises in the Ears."
65. **Snow, Dr. S. F.** (Syracuse, N.Y.).—"Twentieth Century Prognosis in Chronic Catarrhal Deafness."
66. **Szenes, Dr.** (Budapest).—"Zur primaerer Erkrankung des Warzenfortsatzes."
67. **Tansley, Dr. J. Oscroft** (New York).—"Shall we use Cold in Acute Middle Ear or Mastoid Affections—if so, *how long?*"
68. **Tansley, Dr. J. Oscroft** (New York).—"Additional Remarks upon Ear Diseases caused by Deflected Septa."
69. **Tervaeert, Dr. G. D. Cohen** (The Hague).—"A Case of Thrombosis of both Sinus Cavernosi as a Complication of Chronic Mastoiditis ex Otorrhœa, which ended in Recovery."
70. **Turnbull, Dr. Laurence** (Philadelphia).—"Some of the most Important Discoveries in Otology, many of which have stood the Test of 35 Years."
71. **Uchermann, Professor V.** (Christiana).—"Rheumatic Diseases of the Ear."
72. **Veyrat, Dr. Ernest** (Chambéry).—"Des améliorations de l'ouïe obtenues par le tympan artificiel, dans l'otite moyenne chronique sèche, ou sclérose tympanique."
73. **Veyrat, Dr. Ernest** (Chambéry).—"Des injections interstitielles de sublimé dans le traitement des lupus du nez."
74. **White, Mr. F. Faulder** (Coventry).—"The Curability of Suppurative Otitis Media without Operation."

IV.—Demonstrations.

75. **Hartmann, Dr. Arthur** (Berlin).—"Lantern-slide Demonstration on the Anatomy of the Frontal Sinus."
76. **Katz, Dr. L.** (Berlin).—"Demonstration microscopischer und macroscopischer Präparate des Gehörorgans."
77. **Szenes, Dr. S.** (Budapest).—"Demonstration pathologisch-anatomischer Präparate: (a) 'Melanosarcoma auriculæ et meatus'; (b) 'Osteoma liberum meatus auditorii externi.'"
78. **Turner, Dr. Aldren** (London).—"Lantern-slide Demonstration on the Course and Connections of the Central Auditory Tract."

MUSEUM.

A Museum of Specimens, illustrating the Anatomy and Pathology of the Ear, Nose, and Naso-Pharynx, and of Instruments, shown by Members, will be held at the Examination Hall during the Congress. Particulars of Specimens and Instruments to be sent to Mr. A. H. Cheatle, 117, Harley Street, London, W., not later than June 30. Specimens and Instruments themselves to be forwarded between July 26 and August 1, addressed to Mr. A. H. Cheatle, at the Examination Hall, Victoria Embankment, London, W.C.

HOTELS AND LODGINGS.

A list of Hotels and their prices is appended to the programme. Early application for accommodation is recommended. Any further information on this subject will be afforded by Mr. Richard Lake, 19, Harley Street, London, W.

The Reception Room at the Examination Hall will be opened to Members of the Congress for distribution of tickets on Monday, August 7, from 2.5 p.m.

Abstracts.

MOUTH, Etc.

L. Ajello.—*Ligature-carrier for the Uvula.* "Archivii Italiani di Laringologia." Naples, April, 1899.

The author refers to the difficulty in controlling the hæmorrhage which sometimes follows the removal of the uvula, especially in hæmophilia, and to the various measures which generally prove ineffectual to control it. He relies on ligature of the stump, and in order to accomplish this more readily has devised an instrument consisting of a metallic rod mounted on a curved handle and furnished at its distal extremity with two flattened rings in the horizontal plane, and at such a distance from each other as to retain between them a ligature of the ordinary calibre previously half knotted.

The author does not say whether he recommends the application of the ligature before the operation, but it is to be inferred this is not the case, as he describes the method as follows: The rings bearing the ligature are passed over *the stump* of the uvula, and the first part of the knot tightened; an assistant withdraws the instrument while the knot is completed.

James Donelan.

Keiper.—*Albuminuric Tonsillitis; Report of a Case of Spontaneous Hæmorrhage from the Left Tonsil.* "The Laryngoscope," November, 1898.

Patient, Mr. R——, age not stated, under treatment for grave kidney disease, with much albumen in urine, had an ulcer the size of a gold dollar in the upper part of the left tonsil covered by an exudate as in diphtheria. Removal of exudate revealed a scooped-out ulcer. On April 19 and 21, in the morning, 12½ per cent. solution of silver nitrate was applied. On the latter date, in the afternoon, spontaneous moderate hæmorrhage began, but was stopped immediately on applying equal parts of tannic acid and antipyrin. At seven in the evening more severe hæmorrhage occurred, and after various remedies failed to arrest it, ceased spontaneously, and did not recur. Death nine days later. The author attributes this condition of tonsil to changes in the bloodvessels similar to those of the choroidal and retinal vessels in albuminuric retinitis, and quotes on this point from Norris and Oliver's "System of Diseases of the Eye."

R. M. Fenn.

Rosenberg, Albert (Berlin).—*The Diseases of the Mouth, Pharynx, and Larynx.* "Die Krankheiten des Mundhöhle, des Rachens und des Kehlkopfes," 1899 (published by S. Karger, Berlin).

This is the second edition of this well-known work. Considerable alterations have been introduced from wider knowledge in his own practice and from the experience of others. This has necessitated an enlargement of seventy-five pages. The descriptions in the text are clear without unnecessary length. The illustrations are numerous and well executed. It can be thoroughly recommended to all interested in diseases of this part of the body.

Guild.

NOSE.

Arslan (Padua).—*A Last Word on Purulent Rhinitis Caseosa*. "Bollettino," Florence, April, 1899.

The author brings forward two fresh cases in support of the view that this condition is not a distinct disease, as stated by Cozzolino, Wagner, Duplay, etc., but is merely a symptom complicating the various suppurative affections of the nose and accessory cavities. In the first case the caseous masses resulted from empyemata of the maxillary antrum and crest of the septum. In the second, that of a child with adenoids, they formed round a glass bead, and the case was further complicated by the formation of an abscess of the septum anterior to the seat of the foreign body. Complete cure in both cases. Reviewing his previous cases, the author finds that this alteration of the purulent secretion occurs equally in men and women, and that of seven observations made by him it affected the left side five times. It was due to empyema of the antrum in five out of seven, and in these the empyema was preceded by dental caries of the affected side. *James Donelan*.

Foster, Hal.—*Report of a Case of Congenital Nasal Atresia*. "The Laryngoscope," May, 1899.

In this case the patient, a boy aged eight years, had suffered from unilateral nasal atresia since birth. A white fibrous membrane stretching between the septum and the lateral nasal wall was found. The membrane was divided by means of a surgical drill, and destroyed by a galvano-cautery point. A small Asch's nasal splint was inserted, and retained in position by means of adhesive plaster, antiseptic washes being used to keep the parts cleansed. *W. Milligan*.

Grant, Dundas.—*Nasal Insufficiency due to Exaggerated Prominence of the Anterior Arch of the Cervical Vertebrae*. "The Laryngoscope," May, 1899.

The author calls attention to the presence of enlarged cervical vertebrae as an occasional factor in the production of nasal insufficiency, and relates the notes of an interesting case in a young lady aged fourteen. In the particular case cited post-nasal adenoids were also present, which were readily enough removed by means of a pair of Quinlan's forceps, supplemented by the use of Golding-Bird's post-nasal curette. In the removal of post-nasal adenoids the author recommends that the application of any instrument should be accompanied or immediately preceded by a digital exploration of the region. In this way only can an accurate knowledge of the topography of the part be ascertained. *W. Milligan*.

Hamm (Braunschweig).—*Treatment of Ozæna with Citric Acid*. "Münchener Medicinische Wochenschrift," No. 15, 1899.

He uses a mixture of citric acid and sugar of milk in equal parts, which is blown into the nostrils thrice daily. He asserts that it totally overcomes the ozænic fœtor, even although there are crusts present. He uses douches for the sake of cleanliness. The fœtor disappears for several days, even although no more citric acid has been used. With its continued use the secretion gradually diminishes; he has observed absence of fœtor for several months, but never an absolute cure. *Guild*.

Kicer.—*Latent Empyema of the Accessory Cavities of the Nose.* "The Laryngoscope," February, 1899.

The author gives the results of the post-mortem examination of the accessory cavities of the nose (without taking into account the cause of death) in 195 subjects between ten and eighty years of age. In 88 cases the accessory cavities were found diseased, thus: Maxillary sinus in 39 cases, 9 of these bilateral; sphenoidal sinus in 29 cases, 17 bilateral; ethmoidal cells in 7 cases, 1 bilateral; frontal sinus in 13 cases.

In eleven post-mortems all the cavities contained a non-purulent secretion.

Anatomical variations: In 5 cases the frontal sinuses, both right and left, were absent; in 2 cases the right, and in 5 cases the left, sinus was wanting. The author gives other anatomical variations. Between the ages of twenty and eighty, and in the measurements of the sinuses of 70 males and 65 females the following averages of the frontal sinus were recorded:

			Height.	Width.	Depth.
Males	...	...	2.5 cm.	2.4 cm.	2.0 cm.
Females	...	...	2.1 cm.	2.0 cm.	1.6 cm.

In the same series no essential difference was noted in the size of the sphenoidal cells in male or female. The average sphenoidal sinus measured 2 centimetres in length and 1.5 centimetre in breadth. The sphenoidal cells on both sides were absent in 7 cases (all over twenty-five years of age). Other anatomical points are noted.

Empyema of maxillary sinus was due to dental causes in 65 per cent., and to nasal causes in 35 per cent., of the cases. In 40 cases 52 per cent. were cured.

The probe was used in 100 cadavers. In 70 per cent. the maxillary sinus was probed through the ostium maxillare. In 50 per cent. of these the distance from the ostium to the lower free border of the septum nasi was from 5 to 5.4 centimetres.

The sphenoidal sinus was probed successfully in 78 per cent.

In 60 per cent. the distance from the ostium sphenoidale to the lower free border of the septum nasi was 7 to 7.7 centimetres.

The frontal sinus was probed successfully in about 48 per cent., and the distance from the base of the sinus to the lower free border of the septum was in 60 per cent. 6 to 6.7 centimetres. Puncture of the frontal sinus from the cavum nasi by the various advocated methods was tried, and proved to be a decidedly risky procedure: in several instances the probe penetrated the lamina cribrosa without the operator's knowledge.

R. M. Fenn.

Lederman.—*A Simple Method of preparing a Serviceable Solution of the Suprarenal Gland for Nasal or Laryngeal Application.* The "Laryngoscope," April, 1899.

Watery solutions of desiccated suprarenal gland putrify rapidly; added antiseptics interfere with the hæmostatic properties, according to the author's experience in recent researches. The author puts 10 grains of the gland (Armour's) in a drachm of 25 per cent. glycerine watery solution. A half-ounce of this mixture is well shaken in a wide-mouthed bottle and allowed to stand forty-eight or fifty-two hours, meanwhile being shaken at intervals. It is then filtered. The solution has a slight amber colour.

In nasal operations the author applies it before and immediately

after cocaine. Reaction occurs in some instances, and it is always judicious to employ a nasal plug for twenty-four hours. The author uses a tampon of spunk dipped into nosophen-powder, and details the advantages of this form of plug.

R. M. Fenn.

Lockard.—*Case of Hay-Asthma; Turbinectomy followed by Immediate and Complete Relief.* "The Laryngoscope," November, 1898.

J. F., forty-seven years old, had increasingly severe attacks of hay-fever for six years; the last half of this period asthmatic symptoms predominated. Both inferior turbinateds, especially the right, which resembled a mucous polyp, were œdematous. The removal of the anterior end of the right inferior turbinate with the cold snare was followed by immediate and complete relief for at any rate the three weeks previous to publication.

R. M. Fenn.

Payne, Redmond.—*Asthma of Nasal Origin, and its Radical Cure.* "Pacific Med. Journal," May, 1899.

The author's experience has confirmed his belief that the most frequent exciting cause of asthma is to be found in some pathological condition of the nasal mucosa. The contention of the paper is, therefore, that great care should be taken, in all cases of asthma, in investigating the condition of the nasal mucosa, special mention being made of the presence of infiltrated tufts upon either side of the vomer, as in asthmatic cases they are excessively hyperæsthetic and should always be removed.

W. Milligan.

Rischaw, Benjamin.—*Chronic Disease of the Lachrymal Duct due to Nasal Affections.* "Wiener Klinische Wochenschrift," No. 11, 1899.

One of the chief causes of stenosis of the lachrymal duct is swelling of its mucous membrane; but apart from this certain nasal conditions may cause obstruction. These must be removed before treatment can be effectually applied to the duct. The exit of the duct may be obstructed by hypertrophy of the inferior turbinate or by polypoid degeneration of its mucous membrane. It is less evident at first sight that swelling of the middle turbinate or polypi in the middle meatus may also cause obstruction. The nasal duct is shut off from the middle meatus by a lamella of bone, which is formed beneath by the lachrymal process of the turbinate, above by the anterior middle part of the lachrymal bone. The latter is covered at the level of the agger nasalis by the pars tecta of the processus uncinatus. In many cases the bony boundary is interrupted by separation at the sutures and other points; or the bony wall may be so thin that it does not withstand the pressure of a swollen middle turbinate. In many cases the middle turbinate is atrophic and pressed medially against the septum, and an enlarged bulla ethmoidalis projects into the middle meatus; in these circumstances the bulla can press against the wall of the duct, and as a cause of the existing lachrymal duct disease assumes the rôle of an enlarged middle turbinate. He describes a number of cases which show the importance in these conditions of a careful rhinological examination, and the benefits to be derived from appropriate nasal treatment.

Guild.

Saenger, M.—*Subjective Dyspnœa from Dryness of the Mucous Membrane of the Nose, Pharynx, and Larynx.* "Zeitschrift für Krankenpflege," January, 1899.

The author directs attention to the fact that respiration is associated with an impression of cold in the upper respiratory passages, and that this has considerable importance for the movements of breathing. Within reasonable limits, the colder the air the more comfortably do we breathe. He has relieved attacks of asthma by applications of menthol-oil to the larynx. Following up this idea, he has found that tightness and dyspnœa, associated with dryness of the nasal and pharyngeal mucous membrane, are most effectually relieved by some preparation such as glycerine, which produces an artificial moisture over the mucous membrane, soothing it, reducing the irritation, and correcting the perverse sensory condition. In practice he has satisfied himself that the following formula gives the best results :

Iodine	...	...	...	2½ per cent.
Iodide of sodium	...	...	...	2½ "
Glycerine	...	...	...	51.

Of this, 20 to 40 drops added to a wineglassful of water are sprayed into the nostrils twice daily. Guild.

Seifert.—*Diagnosis and Treatment of Disease in the Nasal Accessory Sinuses.* "Münchener Medicinische Wochenschrift," No. 21, 1899.

He uses for diagnosis, after the nose has been carefully cleaned and cocainized, aspiration with a Politzer's bag while the patient swallows. The rarefaction of air produced causes the secretion to flow into the nasal cavity. One can then make out whether there is secretion present, and from which sinus it comes. In this way the secretion can be very thoroughly removed, as was shown in seven cases of acute empyema of the frontal sinus and four of the antrum of Highmore of nasal origin. Guild.

Seiler, Carl.—*Epistaxis: Its Cause and Treatment.* "Med. Record," May 27, 1899.

The author tabulates the causes of epistaxis as follows :

1. *Acute traumatic.*
2. *Chronic traumatic.*
3. *General symptomatic.*
4. *Local symptomatic.*

In the way of treatment nothing specially new is mentioned, but a warning is given against employing cotton-wool soaked in any strong astringent or such a hæmostatic as iron as a plug, because the fibres become too closely adherent, and tear open the newly-formed tissue when removed. W. Milligan.

StClair Thomson.—*Nasal Hydrorrhœa.* "The Laryngoscope." November, 1898.

A critical examination of Bosworth's eighteen cases of nasal hydrorrhœa (in his "Diseases of the Nose and Throat") forced the author to conclude that six of them were instances of other morbid affections, and that nine were dependent on conditions not connected with the nasal mucosa. This leaves three cases justly associated under this title. The author is led to this conclusion by his studies

connected with a case shown before the Laryngological Society of London, where in an otherwise healthy subject cerebro-spinal fluid, with rare intermissions, escaped day and night from one side of the nose. He refers to seven other undoubtedly, and twelve probably, identical cases.

In his original paper the author deals at length with the chemical and clinical differentiation between cerebro-spinal and intranasal secretion, and with the question of the possible origin of the secretion in the accessory sinuses. We may preserve the term "nasal hydrorrhœa" if we mean an affection in which the nasal mucosa secretes a profuse watery discharge, not dependent on intranasal or neighbouring sources of irritation.

It affects adults indifferently as to sex; it is usually bilateral, though not necessarily equal on both sides.

When cerebro-spinal fluid is suspected, it is important to avoid any local interference for fear of infection. In true nasal hydrorrhœa, as above defined, treat as in hay-fever. A plea is entered for moderation in cauterization. Careful general treatment, hygienic, dietetic, climatic, with possibly a visit to a suitable spot, will generally secure satisfactory results.

R. M. Fenn.

Unna (Aerztlicher Verein in Hamburg).—*Radical Treatment of Lupus*. "Münchener Medicinische Wochenschrift," No. 9, 1899.

Unna reviewed the treatment of lupus from a dermatological point of view. Preference must be given to that caustic which has the most delicate reaction on lupus tissue, and that is salicylic acid. The creasote-salicylic acid mixture introduced by him in 1886 has been generally approved of. In a therapeutic sense, greater progress was made by distinguishing between lupus tissue and tubercle bacilli by means of tuberculin. He does not regard salicylic acid as a germicide in comparison to corrosive sublimate, chloride of zinc, or chloride of antimony. He uses acid. salicyl., liq. antimon. chlor., āā 2; Creasote, extr. cannab. indic. āā 4; adipis lanæ, 8. The salicylic acid is a selective agent, chloride of antimony kills the bacilli, creasote and extract of cannabis indicæ are anæsthetic. This is sufficient to cure many cases of superficial or recent lupus. Of caustic applications he prefers caustic potash, calcarie ustæ, sapon. viridis, aquæ, āā. In diffuse and deep spreading lupus it is necessary to seek out and destroy independent centres containing bacilli; this is done by means of the dioscope. After the superficial lupus tissue has been destroyed, he carries out a deep cauterization with fine pieces of wood dipped in the caustic medium. For this purpose he has used corrosive sublimate for two years instead of chloride of antimony. Both methods are required for all old and diffuse forms of lupus. He does not use the sharp spoon in lupus of the nose, ear, or mouth. Treatment by light and Roëntgen rays is advantageous when combined with the spicules of wood dipped in caustic.

Guild.

Wright.—*Remarks on the Etiology of Nasal Polypi*. "The Laryngoscope," April, 1899.

A female, aged sixteen, had noticed left nasal obstruction six months. A large polypoid mass filled the naso-pharynx and the left nostril. After various attempts the growth was removed. It was as large, in its reduced state, after the rupture of cysts, as a walnut; its surface lobulated, each lobule being a cyst. It sprang from the convex surface of the inferior turbinated. For nearly a year recurrent

œdematous polyps appeared at, and were removed from, the site of the pedicle.

Microscopical examination revealed dilated meshes of connective tissue filled with coagulated fibrin with no glands, and for bloodvessels only a very few capillaries, and with a surface of columnar epithelium. Irregular cyst cavities were formed by breaking down of the stroma.

The following peculiarities are noted: The site is not usual for œdematous polyps; the age (shortly after puberty); the rapid recurrence after removal; the scantiness of fibrous tissue leading to the formation of cysts.

Woakes' theory, that inflammation of the spongy bones leads to the formation of œdematous polypi, is discussed. Obstructed venous circulation, due to inflammatory deposits, does not fully account for polyp formation.

Often in hay fever the nasal obstruction due to polypi has begun several seasons after the other symptoms, but the author believes that the hay fever and polypi do not cause one another, but that both are due to a common cause in the vaso-motor nerves. Vascular dilatation is a stage of inflammation, and transudation of serum accompanies this process. Moreover, dilating arteries will compress less resistant veins, and hence obstruct venous return.

The author concludes that œdematous infiltration of the nasal mucosa, either sessile or polypoid, may result from (1) mechanical obstruction to venous return by the products of inflammation in the mucosa or in the underlying bone; or (2) the vaso-motor phenomena accompanying chronic inflammation; or (3) the vaso-motor phenomena present in neuroses, which may give rise to hay-fever and bronchial asthma.

He believes that the polyp described was due to a sharply-localized vaso-motor disturbance, which led to rapid effusion of serum.

R. M. Fenn.

LARYNX.

Baker, A. F.—*Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles of the Larynx, with Report of a Case.* "The Laryngoscope," November, 1898.

Patient, aged forty-two, suffering from well-marked locomotor ataxy (but with no specific history), for one year had been troubled with repeated attacks of dyspnœa, usually sudden in onset after sneezing, coughing, laughing, hiccough, and shouting. Attacks, at first occasional and slight, had become frequent and severe, the dyspnœa being always inspiratory and the eyes becoming fixed, the lips and face purple. Attempts made by fellow-workmen to restore him to consciousness by artificial respiration succeeded, and within half an hour he could resume work. Speaking and singing voice not affected. Vocal cords found to be only slightly separated on inspiration.

Tracheotomy under cocaine anæsthesia was followed by rapid recovery and return to work. He keeps a cork in the tube, and removes it when a suffocative attack begins, and replaces it when over. This he can do at night without awaking. Metal tubes proving unsatisfactory, he uses a soft rubber tube.

The author believes that the opening of the glottis is presided over by an independent ganglionic centre in the upper part of the medulla.

R. M. Fenn.

Giannettasio (Sienna). — *Intubation of the Larynx in (? Diphtheritic) Croup*. "Bolletino," Florence, April and May, 1899.

The author contributes a historical and statistical résumé of the advantages of intubation of considerable interest, and gives copious details of nine cases in which intubation was practised by him. Of these, five patients recovered, in two of whom intubation was followed by tracheotomy, owing to blocking of the tube by false membrane. Of the others, one recovered from the local affection, but at the time of writing remained in a critical state from infective pneumonia. One died of cardiac paralysis almost at the end of convalescence, and three of adynamia in the course of treatment. Sero-therapy was employed in all the cases.

James Donelan.

Prota, G. — *Primary Sarcoma of the Trachea*. "Archivii Italiani di Laringologia," Naples, April, 1899.

Primary sarcomata of the trachea are rather rare, though secondary forms, which arise in sequel to sarcomata of the thyroid or mediastinal glands or to similar tumours in the larynx, are of frequent occurrence.

Primary sarcomata of the trachea occurring in connection with those of the larynx are very rare. Bergeat states that of 99 cases of this disease in the larynx there were only 12 in which the trachea was similarly affected; while P. von Bruns notes that of 14 cases of primary sarcoma of the trachea, the larynx was affected at the same time only in 3.

CASE I. — A married woman of forty, suffering from severe dyspnœa. For two years her throat had troubled her, and she had some shortness of breath on prolonged exertion. Laryngoscopy showed the larynx normal. Vocal cords white, normal in movement, with marked power of abduction disclosing a neoplasm almost filling the trachea at the level of the fourth ring, of about the size of a hazel-nut, reddish in colour, with smooth surface, on which were some varicose veins, and divided into two or three rounded lobes. The outline was well marked anteriorly and on the left, while on the right it united with the trachea in such a manner that it seemed to grow from its right and posterior wall. There was merely a linear breathing-space between the free side of the tumour and the trachea. Stethoscopy revealed nothing pathological; nothing but the propagated sound of the obstructed respiration could be heard. Nothing of importance in the history; no enlarged glands; no history of syphilis. She consented to an operation, but went into the country to arrange her affairs, and nothing further was heard of her.

CASE II. — A countrywoman, single, aged fifty, suffering from dyspnœa and aphonia. For the previous six months she had suffered from hoarseness with attacks of shortness of breath, especially when at work. All remedies failed to relieve the dyspnœa, and she went into hospital last November, where she improved somewhat; but she had scarcely been discharged, when the trouble returned more severely, and the dyspnœa allowed her no repose even at night.

She was examined laryngoscopically on January 20. Below the left vocal cord there was a vegetating mass resembling a tonsil. The neoplasm extended from beneath the commissure anteriorly along the

left and posterior walls of the trachea below the interarytenoid space, and for a very short distance also below the right vocal cord near its posterior attachment. Nothing pathological was found in any other organ. No syphilis. Tracheotomy was advised, with subsequent removal of the tumour through the glottis, but this patient also put off the operation, and did not return. She would not allow the removal of even a small portion for microscopic examination.

These cases show the importance of laryngoscopy, as without it the diagnosis could not have been made from the general symptoms. As a matter of fact, in the first case the grave dyspnoea was the only symptom, while the voice was good, as the cords were not involved. The appearance, history, and seat of the tumours, with the absence of syphilis, led to the diagnosis of primary sarcoma of the trachea in both cases.

These tumours have various forms; they may be round with a large base, or present a papillary aspect, or may attain a considerable size so as to fill the lumen of the trachea, as in Case I. The course is slow and insidious, and as long as the respiration is unimpeded the patient for a number of years may be unaware of the presence of such a tumour. This is explicable to a great extent if the mode in which these growths develop is considered. As connective-tissue tumours they may originate from any stratum of the submucosa or from the cartilage or perichondrium, and they may be looked on as having a predilection for the subglottic region, since it is there that the strain of respiration and phonation is most concentrated. The mucous membrane is loosely adherent in this region, which is, moreover, subject to catarrhal and inflammatory processes. The author considers that these processes have an important influence in the development of these tumours. They are, for the most part, fibro-sarcomata—that is to say, originally of neoplastic fibrous tissue, which, favoured by the abundant vascular supply, becomes changed by an enormous hyperplasia of its elements into true sarcomatous tissue, and the metamorphosis is caused, or at least greatly favoured, by the increased irritation resulting from efforts at respiration through a constantly-narrowing air-space. This hypothesis is in accord with the clinical experience that, when these tumours are removed before they have become very large, they rarely present decided sarcomatous characters; on the other hand, sarcomatous metamorphosis is always to be feared, and early operation is recommended.

Schroetter had a patient under observation for twenty years. He was a man aged thirty-four, who in 1867 had a lobed, pedunculate tumour at the level of the fourth tracheal ring. Schroetter removed a piece which proved to be a fibro-sarcoma, and then extirpated the rest of the growth. It recurred in 1871, and again in 1873. In the winter of 1878-79 the tumour increased until it filled the lumen of the trachea, and the patient died in 1887, twenty years after the first operation. The autopsy disclosed an angio-sarcoma of the trachea with stenosis, accompanied by bronchiectasis, broncho-blennorrhœa, and catarrhal pneumonia. It is to be remembered that this tumour was a fibro-sarcoma, which became in the course of its recurrences an angio-sarcoma.

Tracheal primary sarcomata may occur as fibroids, spindle-celled, round-celled, and angio-sarcomata. These tumours do not tend to ulcerate, to pass beyond the limits of the trachea, or to invade the lymphatic glands. Their site is almost constantly the upper part of

the trachea. Only in one case, that of Meyer-Hüni, the tumour arose from the bifurcation. In another, of Betz, it grew from the left side of the septum at the bifurcation, and had a lobe which hung into the bronchus. These tumours occur with equal frequency in the sexes, and most often in youth and old age. They give no sign of their presence until from their size they impede respiration. Removal *per vias naturales* has been attempted five times, but in only three cases has a cure been mentioned, and in these it was affirmed after too brief an interval. In six other cases the tumour was removed after opening the trachea, and the final result is known in only three instances; in two a cure was affirmed after three months and one year respectively, while in the third case there was recurrence in two years. In two other cases simple tracheotomy was followed by death from collapse and hæmorrhage, as in Koch's case, in which the surgeon performing urgent tracheotomy cut through the tumour, and with the help only of the long flexible cannula of Koenig succeeded in passing the obstacle and tamponing the trachea. Some days later, after changing the cannula, the patient died from hæmorrhage.

Dr. Protá draws the following conclusions from his study of these tumours:

1. Tumours of the trachea attain a large size without giving any sign of their presence, and their early occurrence can be discovered only by the laryngoscope.

2. Dyspnœa and loud tracheal breathing (*cornage*) merely show that the tumour has become large.

3. Tracheotomy should be done at once, without waiting for urgent symptoms, and the low operation is preferable, having in reserve long cannulas, and those with tampons.

4. Extirpation through the glottis may be attempted only in rare and favourable cases, in which one surprises the tumour in its early stage and when dyspnœa is but little marked. *James Donelan.*

Wolff, Bernard.—*Intubation of the Larynx for Membranous Stenosis.*
 "The Laryngoscope," November, 1898.

The author believes that intubation should be practised instead of tracheotomy in all cases where laryngeal obstruction causes dyspnœa, except where a foreign body in the larynx makes the introduction of the tube impossible. Tracheotomy is now generally agreed to be the handmaid of intubation.

The author then gives a descriptive account of the process of intubation, with some of its difficulties. He believes that the prognosis of intubation has been much improved by the use of antitoxin, and quotes on this point from the "American Year-Book of Treatment for 1897" figures which show that the necessity for intubation has been much diminished since the introduction of antitoxin, and that in those cases where intubation is used there is a mortality of only 27 per cent., in former times the number of cases of recovery being only 27 per cent.

R. M. Fenn.

E A R.

Pooley. — *Two Mastoid Operations with Unusual Features.* "The Laryngoscope," April, 1899.

CASE I.—A little girl, aged nine, was seen after a month's history of recurring otorrhœa following acute otitis media, which itself followed acute follicular tonsillitis. For some days there had been a rise of temperature, and before a swelling was noticed behind the ear (only two days previously). When seen there was agonizing pain behind the ear and extending to the occiput. There was much swelling of the posterior wall of the meatus, and the otorrhœa was not very profuse. Temperature, 103° . There were no brain symptoms, and the fundus oculi was normal.

The next morning the mastoid was opened, and much pus and granulation tissue removed, and the cavity left clean and smooth; also a free communication with the ear was established.

The temperature fell to normal, but vomiting set in and continued from the time of operation (Thursday morning) till Saturday evening, being specially bad from Friday morning onwards. The efforts to vomit came on in a sudden and projectile manner, like cerebral vomiting, and no nourishment was retained. The temperature remained normal, and there was no other symptom of cerebral disease. When the vomiting ceased recovery began, and continued uninterruptedly, and after six weeks she was well.

CASE II.—D. M., aged thirty-seven, policeman, recently recovered from right-sided hemiplegia, tall, thin, and of a cadaveric look, was admitted to hospital with a history of pain in the tonsillar region, extending soon to the right middle ear. Two days later perforation and otorrhœa took place. On examination, a large perforation, bulging of the posterior wall of the canal, and a scanty discharge of pus, were found. There was neither swelling nor redness, but deep pressure over the bone, specially near its tip, caused much pain. The patient suffered much. Pulse, 100; temperature $100\frac{6}{10}^{\circ}$.

The next day there was a profuse, foul-smelling discharge from the right nostril, supposed by the author at first possibly to have come through the Eustachian tube.

The usual Schwartze operation was done, and pus and granulation tissue removed. The next day, though feeling better, the patient complained of throbbing pain in the ear and tinnitus, and at mid-day, with a temperature of $99\frac{6}{10}^{\circ}$, there was intense pain in the ear and over the right eyebrow, relieved, however, by dressing and syringing the ear. Palpation over the frontal sinus was painful. During the night he had a profuse purulent nasal discharge, and twice during the morning. On nasal examination, the position of the pus and direction of its flow indicated its origin—the frontal sinus. Inhalations relieved the pain, and after a few days the temperature was quite normal, and complete recovery rapidly followed.

The author then briefly discusses the diagnosis in these two cases, with regard to the vomiting in the first and the frontal pain in the second, excluding cerebral causes of these conditions. R. M. Fenn.

THERAPEUTICS.

G. Isaia.—*Europhene, Parachlorophenol, Oxygenated Water and Iodothyrim*. "Archivii Italiani di Laringologia," Naples, April, 1899.

The author gives a summary of the results of the use of these substances in the Laryngological Institute of the University of Naples.

Europhene, which was introduced as a succedaneum of *aristol*, *airol*, *iodoform*, etc., was employed, like *Glutol Schleich* in the previous year, in obstinate syphilitic lesions of the nose, pharynx, and isthmus of the fauces. Where these lesions are of long standing and extensive, *europhene* is not to be recommended, on account of the small results attained, but in recent and superficial forms it is a most excellent substitute for *iodoform*. After a few days the appearances changed, and cure followed rapidly.

Parachlorophenol was used in laryngeal tuberculosis, but the results were not encouraging. However, the cases were chiefly out-patients, in whom it was impossible to observe the effects of the drug satisfactorily. The experiments will be continued during this scholastic year.

Oxygenated water, already well known in general surgery for its antiseptic power, has been for some time employed in our special branch because fresh liberated oxygen insinuates itself into cavities into which liquids do not readily enter. It was first used for suppurative lesions, and is now much vaunted for its effects in atrophic processes. The author used it in the latter class of cases, and considers that the enthusiasm which attended its earlier use should be diminished. He considers that therapeutics are still deficient against these conditions, and that really efficient remedies are yet to seek. He has observed some improvement of the local conditions during the first few days on which oxygenated water was employed, followed by a return to the *status quo*. He does not recommend its entire abandonment, but that it should be added to the list of drugs already used in these cases.

Iodothyrim (Bayer), now so much in vogue as a stimulator of tissue change, has been used in uterine fibroids, to hasten the consolidation of fractures, in sclerotic processes, auricular adhesions, in parenchymatous goitre, etc. In the last-mentioned disease it has been used, and some cases have been collected in which the experiments are being continued. These include simple, unilateral and bilateral goitres with or without symptoms of pressure on the trachea or recurrent nerves. *Iodothyrim* was administered in the form of tablets, containing each 25 centigrammes, of which from one to four were taken daily according to tolerance, and careful measurements were made during the treatment. The patients were benefited by it, since the weakness, cough, and dyspnœa were diminished, and sometimes ceased altogether, while there was daily and progressive diminution of the goitre. It must be admitted that this improvement usually became arrested after a few days, or proceeded so slowly that it had to be supplemented by the constant current. The good effects of *iodothyrim* should not be lost sight of, and perhaps a more extended experience of its use will enable us to form a more favourable opinion of its merits.

James Donelan.

REVIEWS.

Gould.—*The Year-Book of Medicine and Surgery*, 1899. Collected and arranged by eminent Specialists and Teachers, under the editorial charge of GEO. M. GOULD, M.D. Rebman, Limited, London. Price 38s.

This is the fourth year of the book published under the above title, and, as before, one has to express the greatest admiration for the work. It is, of course, a far more extensive work than any similar works produced here, and as a work of reference should be as much more valuable. Its only fault is its size, but as a library work this scarcely matters. One notices again the admirable way in which the coloured blocks are produced, and the general excellence of all the process-block work.

The aural department is under Charles H. Burnett, while E. Fletcher Ingals and H. G. Ottis are responsible for the nose and larynx; and the general impression one gets is that there is, at all events, nothing of importance omitted.

Sajous's Annual and Analytical Cyclopaedia of Practical Medicine. Vol. iii. : *Dislocations to Infantile Myxœdema.* F. A. Davies, New York, Philadelphia, and Chicago.

Amongst the articles of interest are: Cocaine-poisoning, Exophthalmic Goitre, External Ear, and Goitre.

This volume has caught up time rather better than the earlier numbers, and the annual is now well up-to-date. One knows by experience the difficulties which lie in the path of the editor-in-chief, and also of his associate-editors, and we congratulate them all on their work. The book is invaluable to the student and busy practitioner alike.

Slater, Charles, and Spitta, Edmund. *An Atlas of Bacteriology, containing One Hundred and Eleven Original Photomicrographs, with Explanatory Text.* Pp. 120. The Scientific Press, Limited, 28, Southampton Street, Strand, London. 1898. Price 7s. 6d. net.

The "Photographic Introduction" to this work contains many practical hints from personal observation which cannot fail to make an impression upon all who have some rudiments of knowledge in this interesting branch of art. To those who have it not, it is not too abstruse, but will probably lead many to desire further information on this matter.

As to the main part of the work, it is impossible to speak too highly of the plates, whether one looks at them from the standpoint of photographer or bacteriologist. They are type specimens, and ones which everyone who is engaged in bacteriological quest will be glad to have by him, whether it be as an aid or a reference.

For example, take an organism constantly before every branch of the profession—nor confined to them, for matter of that—the Klebs-Loeffler bacillus of diphtheria. There are seven excellent plates, showing the various forms taken on by the organism in question under different conditions, as well as its colonies in tube cultures—most useful information, even unbacked by text. The text here is clear, concise, and to the point; and as the printing is exceptionally well done, the whole book gives one a very pleasant impression, and one has no hesitation in recommending it, feeling that if all purchasers gain as much as we have done, none will begrudge the time spent in consulting it, nor the modest sum to purchase it.

THE
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NERVOUS DISEASES OF THE LARYNX.

Abductor Paralysis.

IN the May number of our Journal for 1898 we called attention to a criticism of Sir Felix Semon's work by Professor Grossman, and this year Professor Krause has written a paper upon the same subject. We pointed out how important it would be if post-mortem examination could be produced from a reliable source, proving that in a case of pressure of the inferior laryngeal nerve from organic disease, failure of the function of adduction had preceded that of abduction. Further, we were careful to point out that while in our opinion the majority of clinical observers would be inclined to think that early paralysis of abduction and not adduction was the rule, some had hesitated to accept it as law. A careful examination of the literature upon the subject which has come under our observation before and since that article has failed to convince us that any such post-mortem demonstration of early adductor paralysis has been put upon record. On the contrary, post-mortem examination has revealed lesions of the apparatus controlling abduction, and changes have been clearly traced in muscular and nervous structures. Professor Krause's name will always be associated with experimental research in endeavouring to explain one of the most difficult problems set before laryngologists; his early papers relating to work done in Professor Munk's laboratory in 1882 show that laryngologists owe him their sincere thanks, although many could not accept an explanation which was at least ingenious and deserving of a place in the history of lesions of the laryngeal nerves,

whatever might be the ultimate decision. That we were not unjust to him in saying his early ideas have not been accepted as correct is now shown by the fact that in his most recent work he has abandoned his theory of contraction, and in the paper before us he is inclined, after experiments, to give a considerable amount of credit to Professor Grossman for the views that gentleman holds upon the action of the crico-thyroid muscle and the inferences to be drawn from experimental research in trying to show how far alteration in the function of the crico-thyroid may explain the difficulties laryngologists meet in lesions affecting the laryngeal nerves. In the first part of his paper he refers to his own earlier work; then he goes on to explain his reasons for still further pursuing experimental work in the year 1898, and proceeds to give a description of some experiments undertaken by him in Professor Munk's laboratory. Finally, we are presented with his conclusions, in which he is inclined to give credit to Professor Grossman, to whom he refers in very complimentary terms.

As anything written by Professor Krause deserves careful attention, we purpose placing some of his views before our readers, and to make some remarks thereon.

Professor Krause details some of the experiments, but to confirm these others were carried out. In the first set a medium-sized dog in whom the larynx was normal was selected. Pieces of cork were properly arranged and kept in position by thread so as to produce pressure on the inferior laryngeal nerves. After the operation the movements of the cords were still normal, but next day the right vocal cord was less movable. On the fourth day the right cord stood in the middle line, while the left was still normal in function. The threads round the former were now loosened and the nerve cut peripherally, but no change in the movement of the right vocal cord from the former position of adduction was noticed. The left nerve was then divided, when the cord assumed the same position, and dyspnœa followed; the glottis showed a narrow cleft. Afterwards the external branch of the superior laryngeal nerve to the crico-thyroid muscle was divided, when there was noticed a distinct tendency of the cords to pass outwards, and the cleft between the glottis became wider.

Second set of experiments: In this case a larger dog was selected. Both external branches of the nerve were put into the loop, the left inferior laryngeal nerve was cut through, and the left cord took up a position near the middle line. Notwithstanding this, it was noticed that with deep expirations the left vocal cord advanced to the middle line not quite in its full length, but in its

greater part, especially in its middle portion. At the same time it was noticed that the right cord whose nerve had been cut was working normally. The left arytenoid cartilage was moved a little towards the middle line. In order to try to explain these results the crico-thyroid muscle and the cricoid cartilage were exposed as far as possible without separating the surrounding muscles. With each expiration a synchronous movement of the exposed front parts of the ring cartilage was noticed upwards and round the horizontal axis. This was explained by the contraction of both crico-thyroid muscles with each expiratory movement. An induction current was now applied to the external branch of the superior laryngeal nerve on the wounded left side, and torsion of the cricoid cartilage and arytenoid cartilage to the opposite side and backwards was noticed. At the same time the vocal cord of that side (on which the nerve was divided) advanced towards the middle line, although the edge of the vocal ligament was somewhat slackened. Next the external branch of the nerve on the side not wounded was irritated by the same current, when the movement of a portion of the cartilage behind and to the middle line was noticed to be stronger than on the wounded side, while the tension of the vocal cord was stretched lengthwise, as if advanced towards the middle line. The right inferior laryngeal nerve was now cut through, when it took, as had been noticed on the left side, a distinct and fixed position near to the middle line. In order that more accurate observations might be made while the electric current was being applied, the upper part of the windpipe was cut through quickly, and the crico-thyroid muscle irritated as described by Kuttner and Katzenstein. In order to do this the ring cartilage had to be drawn up and moved backwards, when both arytenoid cartilages were seen to move from the middle line, while the vocal cords were stretched and opposite each other, showing a gap of about 2 mm.

Third set of experiments: On several older dogs these variations were noticed after cutting through the inferior laryngeal nerve, but the position of adduction was not so well marked as in younger dogs.

Fourth set of experiments: In another number of trials both inferior laryngeal and both external branches were cut through, and the superior laryngeal nerve was stimulated by means of the electric current. This was done to see if the muscles of the head of the windpipe received motor innervation from the superior laryngeal nerve, as well as the inferior laryngeal and external branches. No effect was noticed in the muscles while being stimulated electrically.

Fifth set of experiments: On an older dog both inferior laryngeal nerves were carefully removed from their surroundings. Loops were placed round them, and small pieces of cork were placed as usual on the left side. On the right side the cork was placed so as to be easily movable on the nerve. After operation both cords were moving normally. Next day the left vocal cord rested firmly in the median line, while the right was freely movable both ways. On the fifth day, however, there was less power of abduction on the right cord, but it could move freely towards the middle line, with perhaps a slight hitch. Then the left inferior laryngeal nerve was cut through without any effect upon the left cord in the median position. The left external branch was cut through when the left vocal cord seemed to move a little to the outside, and formed, with the right vocal cord, if still adducible, a rectangular triangle. Next, the right inferior laryngeal nerve was carefully removed from its surroundings, causing slight twitching which could not be avoided. At the succeeding laryngoscopic examination quite another picture was got, for the right vocal cord was fixed in the median position. Nevertheless, a great difference of phenomena of movement was noticed in comparison with the opposite half of the windpipe, where the inferior laryngeal nerve was still not yet cut through. While the left cord was almost motionless, with the exception of some feeble movement now and then, the right vocal cord showed a rhythmical prolongation at each expiration as well as an extension towards the middle portion while approaching the middle line.

The positive results claimed for these experiments are, firstly, pressure on the nerve caused immobility and a median position of the vocal cords. Secondly, the median position is not changed if the nerve pressed upon is cut peripherally. Thirdly, after cutting and complete paralysis of the laryngeal nerve the vocal cord takes a position which can be properly called that of adduction, inasmuch as it approaches more to the position of phonation than the quiet position in inspiration, but it should be noticed that the median position which occurred after treating the nerve with pressure, and which continued even after cutting, seems to approach still more to the position in phonation than what would occur after simply cutting the nerve. In such a case the position of adduction approaches more to that of inspiration than that of phonation, as soon as the crico-thyroid is paralysed. Fourthly, the laryngeal examination, as well as direct observation, shows that the crico-thyroid muscle is automatic, and a concomitant expiratory muscle. Fifthly, notwithstanding complete paralysis of the inferior

laryngeal nerve, there is a synchronous expiratory action and movement of the vocal cords to the middle line caused by the action of the crico-thyroid muscles. Sixthly, electrical stimulation of the external branch, as well as of the muscle, after cutting the inferior laryngeal nerve, causes the approximation of the vocal cords in a position near to the middle line, the action being somewhat sluggish, however. By preserving the inferior laryngeal nerve the vocal cord is better stretched and drawn tightly in its length approaching the middle line. Seventhly, the superior laryngeal nerve, with the exception of that branch of the crico-thyroid, has nothing in common with the motor innervation of the larynx. Eighthly, it has been proved that the experiments can also produce a condition of commencing and incomplete paralysis of the inferior laryngeal nerve. At this time the outward movement of the vocal cord is hindered, while adduction (phonation) is preserved. Having given these results, Professor Krause proceeds to his conclusions, in which he admits that his own theory of contraction is no longer tenable. He next concludes that Wagner and Grossman have shown that the position of adduction of the cord is due to the action of the crico-thyroid muscle in cases of paralysis of the inferior laryngeal nerve. This muscle, being really expiratory, produces the initiative of phonation, the movement produced during expiration drawing the cord out of its position in inspiration. As the activity of the muscle continues even when the inferior laryngeal nerve is paralysed, it now alone acts on the cords and brings about adduction. If at the very beginning of the procedure the nerve is incompletely paralysed, the crico-thyroid will support by its regular automatic activity that part of the muscle which is weakened by the commencing paralysis, and in unison with it this action becomes synergic and the effect of the movement improves by it. If it did not act in this way, for example, in the beginning of the procedure of an attack of paralysis, with upper and lower nerves of the larynx attacked, the movement of the vocal cords would be hindered in the same way outwards as well as towards the middle line, limiting the movement in both directions to a minimum. But as long as the crico-thyroid muscle acts it keeps the vocal cords in the position of adduction. Professor Krause thinks Herr Grossman is wrong in stating that these movements have never been made out; on the contrary, they have been clinically. Professor Krause thinks still further that Herr Grossman is wrong in admitting that proof of such a position would suggest theories of former paralysis of the posterior crico-arytenoids. This statement in my experience of the hindered action of adduction towards the middle line proves un-

doubtedly that the crico-thyroid must begin to produce the same effect by incomplete paralysis as by complete paralysis. Herr Grossman has been very successful, according to Professor Krause, and no further explanation is needed to describe commencing paralysis of the crico-thyroid when its antagonists and synergists have ceased to work. Professor Krause also thinks Herr Grossman might have mentioned Herman von Mayer's praiseworthy work on the synergetic action of the laryngeal muscles, and in conclusion he congratulates Grossman upon his excellent and successful work.

To gather the far-reaching results of this paper, if accepted, one has almost to go back to the state of our knowledge of nervous lesions of the larynx previous to Sir Felix Semon's paper. No doubt lesions of abductors and adductors had been previously described, but one of the most important results of the work was to concentrate our attention upon the important fact that, when a nerve-trunk composed of fibres to different groups of muscles was pressed upon in organic disease, certain fibres and certain muscles supplied by these fibres lost their function before others, and that corresponding changes in structure had been recorded. Careful anatomical preparations, the result of post-mortem examinations, greatly impressed workers in this department with the value of such a distinction; and although some were inclined to doubt, as we have so often expressed, the existence of a law (without exception), nevertheless, it seems only fair to state that a classification of this sort was of the greatest importance clinically. From previous indefinite ideas it was easy to see how simple and useful would be the classification which pointed to lesions of adduction being due to what are ordinarily called functional causes, while early loss of abduction pointed to organic and more serious mischief. Every laryngologist knows how well such a view has served him at the bedside, and after some years of careful investigation on the part of many, these views have from the diagnostic and prognostic point of view been extremely valuable. To put it plainly, a sort of resting-place had been found which clinically, at least, was extremely satisfactory in its nature. Now it would appear that doubts, largely from experimental research, are to be thrown upon this work, and many will probably be inclined to think that we have a long way to go and much hard work before us ere a definite position be accepted. Notwithstanding Professor Krause's work, a careful examination of the whole facts of the case leads us to believe that there is not yet any necessity for believing that the theory of the proclivity of the abductor fibres is to be set aside. In the first place, as we pointed out in our former article in this Journal, a most

careful inquiry has failed to show a single post-mortem examination which would demonstrate in organic pressure of the inferior laryngeal nerve loss of function in the adductors in the first instance: on the contrary, what post-mortem work exists has all pointed to early implication of the abductors. Further, granting for a moment that recent experimental research has shown that the crico-thyroid has something to do (not formerly understood) with adduction, the great mass of evidence goes to show that when pressure upon the inferior laryngeal nerve takes place, nerve fibres to the adductors and their muscular fibres themselves escape, while others become implicated. That is to say, the muscles we have previously regarded as the great adductors of the larynx, whatever the function of the crico-thyroid, do not suffer. One is inclined to ask, granting for the sake of argument Herr Grossman's views about the crico-thyroid muscle as an adductor, What is the true function of the opponents of the abductor muscles? If they have a function as well as the crico-thyroid, what is this precise function in man? No one doubts that, if pressure be exerted upon the nerve-trunk containing both fibres, definite results follow, and the lesions that result demonstrate clearly changes in the structure of the abductors and the absence of these in the adductors. If this be so, it naturally follows that the ordinary adductors are producing some action upon the vocal cords, even supposing the crico-thyroid is still performing the function now assigned to it. Further, one of the fundamental ideas of the theory of early abductor paralysis rests upon this proclivity of certain fibres to lose their function before others, when both are apparently subjected to the same pressure. A great mass of evidence exists in support of this view, which, as far as we can see, is not influenced in the least by the statement that the crico-thyroid has also to do with adduction.

There are many other considerations which will suggest themselves to a careful observer. Professor Krause, for example, states that no nerve-supply to the muscles is got from the superior laryngeal. As we all know, this is not Exner's view, and certainly we think further experiments necessary before such a statement be accepted. Again, there is the very great question raised in these experiments about placing our faith entirely upon experimental research in the lower animals. We know that in some of the lower animals there are more than two laryngeal nerves, and this enables us to look at the question from two different standpoints. Firstly, experiments on the lower animals cannot always be expected to apply to the human subject; and, secondly, phonation is one of

the great actions in the higher development of the larynx of man. Now, difference in function suggests difference in structure. These very questions were largely dwelt upon at the last meeting of the section of laryngology of the British Medical Association; and as one reads Professor Krause's paper, it is impossible to forget the many points raised during that discussion which have a distinct bearing upon the question. We are not amongst those who would depreciate the value of experimental research upon the lower animals, but when the result of these, instead of explaining what the clinical observer sees in man, seems to throw doubt upon it, one of the first impulses is to ask, Do the conditions in the lower animals not account for the failure to reconcile what has been observed by experimental research and what we see at the bedside? The clinician and pathologist, as well as the experimenter, will all have something to do with the final decision. In our former article we asked particularly for evidence from the pathological standpoint, believing that in the human subject, at least with the facilities at our disposal, there can be no richer source of information. We particularly asked for any proof from post-mortem examination of early lesions of adductors as opposed to abductors, and the necessity of such evidence on behalf of those who do not fully accept Sir Felix Semon's views. We have not the slightest intention of undervaluing Professor Krause's views; on the contrary, we shall always have pleasure in placing his work before our readers. All the same, we cannot yet accept Herr Grossman's view that recent experimental research has upset the valuable clinical, pathological, and experimental work which enabled Sir Felix Semon and Mr. Victor Horsley to arrive at their views upon the question under consideration.

JOHN MACINTYRE.

REMARKS ON THE TREATMENT OF DEFLECTION OF THE NASAL SEPTUM.

BY DUNDAS GRANT.

THE thickenings and bendings of the nasal septum which are so glibly referred to as deviations, outgrowths, spurs, crests, and so forth, are found in given cases to be combined in various proportions. A universal method of treatment is therefore scarcely attainable, but the nearest approach to this is undoubtedly the simple sawing operation advocated by Bosworth with such force in his remarkable paper on "Deformities of the Nasal Septum,

etc." (*New York Medical Record*, January 29, 1887), in which he gives an analysis of the results obtained in 166 cases. These appear to have been eminently satisfactory, and in no case was a perforation produced. In this respect the writer is to be congratulated on his skill and judgment, but also on his luck, for we doubt whether any other observer could find an equal number of successive cases without at least one in which adequate removal of the projection could not be effected with the saw without the unavoidable production of a perforation. Moreover, cases occur in which, although no perforation has been produced at the time, such a condition develops at a later period. The present writer has seen this occur in a case of tertiary acquired syphilis, in one of hereditary syphilis, and in a third case (on re-examination after several years) in which, at the time of the operation, there was no evidence of a perforation and no history of specific disease. These exceptional cases inculcate very obvious precautions, but they do not, in our opinion, invalidate the conclusion that Bosworth's sawing operation is by far the most generally applicable one in cases of "deformity" of the septum in the gross.

For crests and spurs on the bony septum Bosworth's saw, or some modification of it (electric or otherwise), is the ideal instrument, though some prefer a ring-knife, chisel, or trephine.

When we come to consider deflections as such, the applicability of this method becomes more questionable, and by a very happy inspiration on the part of the bureau of the section of Laryngology of the New York Academy of Medicine, a discussion has taken place on the "Treatment of Nasal Stenosis due to Deflective Septa, with or without Thickening of Convex Side." The introductory papers were read by Drs. F. H. Bosworth, Morris Asch, John O. Roe, Arthur W. Watson, E. B. Gleason, and Beaman Douglass, while the discussion was continued by Drs. Jonathan Wright, J. E. Newcomb, Holbrook Curtis, Arthur G. Root, Emil Mayer, and Thomas J. Harris. The papers are fully reported in our contemporary, the *Laryngoscope* for June, 1899, and offer condensed accounts of the methods described in greater detail in the various writers' previous publications.

Bosworth reiterates his opinion as to the applicability of the sawing procedure, which he claims "as an operation which can be accomplished at an office sitting, and which does not involve confinement to the house or bed, and practically does not interfere with the daily occupation."

Dr. Morris Asch's operation is chiefly directed against the resiliency of the septal cartilage, incisions being made as nearly

as possible at right angles to each other through the curved part by means of specially-constructed scissors. The flaps thus formed are forcibly pushed through into the concave side of the septum so as (if possible) to break through the base of attachment, but at all events to do away with the resiliency. Hollow plugs are then introduced to maintain the cartilage in its vertical position. He deprecates forcible straightening of the osseous portion of the septum. Roe, on the other hand, insists on the importance of changing the direction of the cartilage by breaking through the portion of the bony septum to which it is attached, using for the purpose a special modification of Adams' forceps, one blade being fenestrated, the other blunt and fitting into it. The elasticity of the anterior part of the cartilage is to be overcome by means of bevelled incisions crossing each other at the most convex part, presumably perforating completely, and by others, if necessary, at the attached margin, but perforating the mucous membrane of the concave side. Dr. Douglass effects the same purpose by means of two short-bladed knives set at right angles to their shafts. The first has a sharp spear-head point with which the cartilage is perforated at its most convex, or possibly any, point; the second has a blunt point so as not to wound the operator's finger in the opposite nostril. It is passed through the perforation, and under guidance of the finger is made to cut along the lines of flexion to the most remote points. Gleason uses a saw which he introduces below the deflection. He cuts horizontally inwards till the saw has penetrated somewhat deeply into the tissues, then upwards parallel to the normal plane of the septum, keeping the point of the saw beyond the bulging so as to cut round, and not into, it. A U-incision is thus made, leaving the deflected area attached by one margin. The incisions can be lengthened by means of a bistoury. Watson uses a stout pointed tenotome, supplemented, if necessary, by the upward-cutting saw.

Halbrook Curtis maintained that the desired result could always be arrived at by means of the trephine and saw. Drs. Wright, Newcomb and others advocated a judicious selection of operation, but agreed as to the value of Asch's operation, Dr. Emil Mayer supporting them in this view. The question of interfering with the turbinated bodies was scarcely sufficiently considered. Dr. Douglass held that before reducing the deflected septum, any redundancy of turbinated bodies on the concave side should be removed, but Dr. Mayer insisted that such redundancy was simply the result of diminution of air-pressure in the cavity, and that it became very much less after correction of the deformity.

We would suggest that, before undertaking any operation, the surgeon should carefully consider in the first instance by what means he can restore the necessary air-passage with the least amount of traumatism. Naturally, it is desirable on principle to remove structures of little physiological importance rather than others, and therefore to attack the septum and spare the turbinated bodies. On the other hand, cases occur in which the removal of sufficient of the septum would leave a very extensive raw surface, whereas the amputation of the anterior extremity of the inferior turbinated body, first proposed by Lake (*JOURNAL OF LARYNGOLOGY*), may afford ample air-way and leave enough of the structure to fulfil the important physiological function of warming and moistening the inspired air.

An ingenious contribution towards the solution of the problem of removing deflected portions of the cartilaginous septum has been made by Escat of Toulouse (*JOURNAL OF LARYNGOLOGY*, 1898, p. 622). He has succeeded in detaching the mucous membrane of the concave side by the injection of sterilized water under it by means of a hypodermic syringe. This is followed by the removal of the projection by means of a bistoury. The classical operation of "resection" of the cartilage as described by Hartmann and Petersen (*Berlin. Klin. Woch.*, 1883, 22) is ideally excellent, but from the little reference made to it in the more recent current rhinological literature, the present writer ventures to presume that others have, like himself, found it so difficult of performance that they have allowed it to lapse into disuse in favour of simpler, if less perfect, procedures. Of these methods, the simplest is no doubt the free removal of the bulging portion of the cartilage by means of a probe-pointed bistoury, regardless as to whether a perforation is produced or not. As far as respiration is concerned, this plan is all-sufficient. With regard to the formation of a perforation, in the majority of cases this causes no inconvenience whatever, especially, the writer believes, if it is very large and situated far forwards. On the other hand, a perforation, particularly if of small size, may be so placed that a whistling sound is produced during respiration. Again, discomfort is apt to be caused by the accumulation of inspissated mucus or muco-pus in the perforation.

In view of these facts, we are bound to admit that the production of a perforation is not a matter of indifference. We believe that its occurrence is less likely if a bistoury with a somewhat blunted edge is employed, which may cut through the cartilage and the superincumbent soft tissues, but which may push away the mucous membrane and perhaps the perichondrium of the concave side. This, however, is obviously not always to be depended on.

The treatment of pure deflection of the cartilaginous septum seems to have excited less interest in this country than in America, if we may judge by our current literature and the reports of our societies, and, no doubt, some excellent results have been attained by means of bougies, septal splints, pins, and minor cutting operations on the septum or reduction of the turbinated bodies. At the same time, in the light of the facts and opinions so powerfully focalized in the discussion to which we have so freely alluded, it is most desirable that such operations as that of Asch, and its congeners, should receive more critical attention than hitherto from British rhinologists, both conservative and progressive.

THE RHINITIS OF INHERITED SYPHILIS.

A NOTE BY

STCLAIR THOMSON, M.D., M.R.C.P. Lond., F.R.C.S. Eng.,

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INHERITED syphilis, as a rule, makes its first appearance a few weeks after birth. The symptoms are then mainly those of the secondary period of the acquired disease. The "snuffles" and chronic coryza are in themselves very suggestive of the inherited taint, but this catarrh is generally so constantly accompanied by other characteristic manifestations that the diagnosis seldom presents great difficulty.

The same cannot always be said of the later manifestations of the disease. These generally appear from the age of four or five up to that of puberty, and "late" forms are recorded even after twenty years of age. The appearances correspond to the symptoms which characterize the common tertiary form of the disease, but are less definite, so that sometimes it is quite impossible to form an exact diagnosis from the appearances. These have to be supplemented by a full consideration of the history of the family and the history of the patient's general condition and previous illnesses.

The little girl whose photograph is here reproduced first came under my observation when she was six and a quarter years old. She was brought for an attack of subacute otitis media, from which she soon recovered. Shortly afterwards (September, 1897) her mother returned with her, complaining that the mucus from the child's nose was thick, and that the bridge of the nose was becoming depressed. Nothing was found in the nasal fossæ, except some dry rhinitis, and the change in the configuration of the bridge of the nose was so slight that it could not be appreciated by anyone



except the mother. At that date the child had all her temporary teeth, and nothing amiss was noticed with them. Unfortunately, the family history was not inquired into. The case was seen in consultation with a colleague, but regarded simply as one of early atrophic rhinitis. It was treated with alkaline nasal lotions, and the syrup of the iodide of iron.

The patient disappeared from observation, and only came under notice again in February, 1899. She was then seven years and nine months old, and during the interval had shed her temporary upper incisor and canine teeth. These had been replaced only by the two central incisors. These latter presented incontestable evidence of congenital syphilis. A reference to the photograph will show how typical they are of "Hutchinson's teeth." The characteristic peculiarities are that they are dwarfed; the portion of the upper jaw from which they grow is stunted in its development, giving a certain "under-hung" appearance; the two incisors stand somewhat apart, and slope away from one another; they are unusually rounded, instead of being quadrilateral; they are larger near the gum than at the free edge ("pegged"); and they are "notched." This notch occupies the centre of the edge; it is deeper and wider in the centre, and is shallower and narrower as it approaches the lateral borders. The dentine is exposed at the bottom of it.

It is only these upper central incisors which show pathognomonic evidence of inherited syphilis in the teeth.

The photograph also shows that the slight falling in of the bridge of the nose, which the mother was the first to suspect, is now no longer doubtful. No lesion was found in the septum, but the atrophic changes in the turbinals were more marked, and the odour was rather that of ozæna than of acquired tertiary syphilis.

The family history was now carefully inquired into, and the fact was elicited that the mother had had three miscarriages previous to the birth of the patient, who was her only living child.

The child's voice had become harsh and toneless, and this was found to be due to slight general hypertrophic laryngitis. She remained bright and intelligent, and no other evidence was found of her inherited disease.

There is no doubt that this little girl was a victim of congenital syphilis, and that I had overlooked the exact nature of the rhinitis when she was first brought to me. It is easy to be wise after the event, and looking back now on the case as it first presented itself, I do not see how the diagnosis of inherited syphilis could have been positively arrived at. The family history in the present instance

was sufficient to strengthen a suspicion; but it could hardly be called on to do more than that, and in many other cases it would fail us.

I have insisted elsewhere on the importance of the early diagnosis and active treatment of syphilis of the upper air-passages,* and I venture to think that the lesson to be drawn from the above case is that, when atrophic rhinitis attacks a child, and its bilateral appearance cannot be satisfactorily accounted for, we should make a very complete investigation into the patient's previous illnesses and family history. If the suspicion of inherited syphilis is not then allayed, the child should have the benefit of the doubt by the administration of antisyphilitic treatment. Later on, if the characteristic changes are found in the teeth, the eyes, or the ears, these difficulties of diagnosis are, of course, not encountered.

Since February last the patient has been treated internally with mercury and iodide of potassium and the usual attention to the nasal fossæ. The nasal condition has greatly improved. The atrophic changes are, however, so established in the mucous membrane that, as Lermoyez expresses it, she only remains cured so long as she continues the treatment.

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

Fifty-first Ordinary Meeting, June 2, 1899.

F. DE HAVILLAND HALL, M.D., *President, in the chair.*

Case of Unilateral Paralysis of Palate, Pharynx, Larynx, etc.
Shown by Dr. HERBERT TILLEY.

The patient, a female aged twenty-nine, had been complaining of hoarseness and dryness of throat with difficulty of swallowing for three months. There was an accumulation of saliva in the throat and some difficulty of swallowing solid food, and occasional regurgitation of fluids through the nose. Patient had probably had syphilis. Examination showed that the left half of the soft palate, left half of the pharynx, and left vocal cord are paralyzed, the last being in the cadaveric position.

Sensibility was much diminished on the paralyzed parts. The

* *The Laryngoscope*, January, 1898.

upper part of the left trapezius and the left sterno-mastoid showed unmistakable signs of commencing degeneration. There was no paralysis of the tongue or the facial muscles, and no evidence of any other cranial nerves being affected.

The exhibitor remarked that during the past four months he had met with four similar cases, and these tended to prove clinically, what Horsley and Rethi had shown experimentally, that it was the spinal accessory nerve which innervated the muscles of the larynx, the pharynx (partly), and the soft palate.

A Case of Disseminated Sclerosis with Paresis of Left Half of Soft Palate and Larynx, and a Case of General Paralysis with Paresis of Left Half of Larynx, were shown by Dr. JOHNSON HORNE.

Dr. PERMEWAN asked what was meant by "general paralysis" in these cases. Did it mean "general loss of power"?

Sir FELIX SEMON would not have used the word "paralysis." A point of great interest in Dr. Horne's case was the nystagmus-like movements of the left vocal cord: abduction was separated into three distinct movements. He thought this a very interesting phenomenon, of which he was unable to give any elucidation; it might be a lesion below the fourth ventricle.

Dr. JOHNSON HORNE said by general paralysis was meant general loss of power.

A Specimen of Larynx blocked by a Mass of Papillomatous Growth from a Boy aged Eleven. Shown by Dr. PERMEWAN.

Six years ago, while the patient was under the care of Mr. Murray at the Liverpool Infirmary for Children, Dr. Permewan had seen him and removed some growths with the intra-laryngeal forceps. The dyspnoea still continuing, Mr. Murray performed thyrotomy, removed the growths, and cauterized the base of them thoroughly. This was followed by much relief, but three years later the symptoms had recurred, and the operation was repeated, again with relief. In April of this year he was admitted into the Northern Hospital with evident signs of growths, but with no apparent urgency of symptoms; he was, however, found dead one morning, evidently from asphyxia. On post-mortem examination the larynx was found almost completely blocked by a large mass of papilloma as shown.

Dr. PERMEWAN thought the point to be emphasized here was the fact that two complete thorough operations had failed to cure the case; he doubted whether thyrotomy was any more radical in

its effects than the repeated removal by intra-laryngeal methods, difficult though that might be in young children.

The PRESIDENT suggested that a discussion might at some time be devoted to the treatment of these cases.

Dr. POWELL asked if tracheotomy was performed on this case.

Dr. PERMEWAN said that tracheotomy was done (before he had seen the patient) six years ago for urgent symptoms. The case showed too clearly the great tendency of these papillomatous growths to recur after complete removal. He thought it was better not to perform indiscriminate thyrotomy.

Specimen of Larynx from a Case of Perichondritis. Shown by Dr. PERMEWAN.

The patient was admitted into the Liverpool Southern Hospital under Dr. Cameron in September, 1898, having been ill six weeks. There was then much cough and dyspnœa, which necessitated tracheotomy. The epiglottic and ary-epiglottic folds were much swollen, and the larynx externally measured $2\frac{3}{4}$ inches across. There were enlarged and painful glands on both sides of the neck, particularly the right side. The diagnosis lay between malignant disease and perichondritis of the thyroid cartilage; the lungs were healthy, but there was chronic bronchial catarrh. There were no tubercle bacilli in the sputum.

After some time the glands began to soften and break down; an abscess formed on the right side, and was opened, and bare cartilage found at the bottom of it. This was repeated two or three times, and a small bit of cartilage came away. The laryngeal symptoms became less marked and more favourable, but six weeks before death he began to complain of pain in the lumbo-sacral region of the spine. This was rapidly followed by angular curvature followed by paraplegia, paralysis of the rectum, and bleeding, from which he died.

The larynx shows necrosis of the thyroid cartilage, but no growth. No examination was made of the spine.

Case of Parathyroid Tumour causing Symptoms of Malignant Disease of the Larynx; Operation and Recovery. Shown by Mr. DE SANTI.

The patient, a male aged fifty-eight, sent to me by Mr. Eliot, who stated that he had been persistently hoarse for ten months, had a brassy cough and some stridor. Dr. Mitchell Bruce could find no chest affection to account for it. There was no pain or dysphagia, no expectoration, and no loss of flesh. Patient denied syphilis.

There was found very impaired mobility of the right vocal cord and marked limitation in abduction.

The right cord was uniformly red and somewhat swollen ; there was no ulceration or neoplasm visible. No glands to be felt in the neck ; old scarring of right face and cheek suggestive of old syphilis. Voice very hoarse and feeble. I considered it most probable that the case was one of early malignant disease of the larynx, with an alternative of syphilis or mediastinal tumour pressing on the right recurrent laryngeal nerve. I ordered rest of voice, no smoking, and iodide of potassium.

In September, 1895, the patient's voice was almost a whisper. He had gone downhill rapidly, having lost much in weight. The right carotid artery pulsated visibly, and seemed pushed forward by a smallish, indefinite, probably glandular swelling deep in the neck, and about the level of the second or third ring of the trachea.

In December, 1895, the swelling in the neck was smaller, the voice better, the right vocal cord a little more movable, and there was a gain in weight.

During 1896 the patient was in very fair health, had gained weight ; the voice, though hoarse, was stronger, and the swelling in the neck movable, softer, and more defined ; the right vocal cord was *in statu quo*.

In February, 1899, the patient had an attack of flatulence and dyspepsia ; this was shortly followed by difficulty in swallowing solids, and later liquids. He lost flesh rapidly, half a stone between February 6 and March 29. At the same time a very marked increase in the size of the cervical swelling was noted. There was regurgitation of food, and sensation of blockage at the level of the cricoid cartilage.

Examination of the larynx showed the right vocal cord more fixed, but otherwise the same. I passed a No. 18 œsophageal bougie, and had some considerable obstruction about the level of the upper part of the sternum ; no blood or pus on withdrawal.

The lump in the neck felt to be the size of a Tangerine orange. It seemed elastic, and not stony hard. I took a grave view of the case, and advised exploratory incision in the neck, as I considered from the whole course of the events that the main trouble was extra-laryngeal.

An incision was made over the anterior border of the right sterno-mastoid down to the level of the sternum and a large tumour exposed, situate in the lower carotid triangle, extending down to and under the upper part of the sternum. By careful dissection this tumour was gradually defined ; I found it distinctly encapsuled

The carotid artery and jugular vein were pushed far over to the outer side; the whole tumour was very vascular. I eventually clearly isolated it, the chief difficulty being with the right recurrent nerve, which was attached to the tumour and flattened, and with the inferior thyroid artery; the right innominate and part of the left innominate vein were exposed, as the tumour was partly substernal. The œsophagus was seen to be distinctly compressed by the tumour; the latter had no connection with the thyroid gland, but there was some fibrous infiltration of the œsophagus opposite the seat of pressure.

A cross cut and partial division of the sterno-mastoid had to be made to thoroughly get at the tumour. The right dome of the pleura, the right phrenic nerve, and the right subclavian artery were seen at the time of operation.

Recovery was uneventful, and swallowing powers improved almost at once.

Microscopic sections show the tumour to be of the nature of parathyroid tissue and essentially innocent. The growth itself is completely encapsuled, and there is a large cyst in the centre.

The case seems to be of great interest. At first everything pointed to early malignant disease of the right vocal cord—the age of the patient, the uniform redness and impaired mobility of the cord, the hoarseness, and later the presence of a lump like a gland externally; on the other hand, time proved the trouble not to be intrinsic carcinoma. Later on, *i.e.*, in February, 1899, everything again pointed to malignant disease, though more of the neck than the larynx.

Though the microscopic appearances are those of innocent tumour, I am still inclined to think that the tumour was commencing to become malignant, for the clinical course of a sudden and rapid increase in activity in a man of sixty-two, of a tumour anywhere which may have remained dormant even for years, is always very suspicious, and I consider clinical evidence more important in such cases than microscopic evidence.

Case of Complete Paralysis of one Vocal Cord and Impaired Abduction of the other. Shown by Dr. STCLAIR THOMSON.

This patient, a boy aged seventeen, was said to have been hoarse since his voice changed, at the age of fourteen, and it was therefore to be presumed that the laryngeal condition had existed for three years. The condition is sufficiently described by the title of the case. There is nothing in the boy's neck, chest, or nervous system to explain the cause of the paralysis. The exhibitor suggested

influenza as a possible cause, and wished to know if others had seen cases at this early age.

Dr. PERMEWAN had had three cases of paralysis of the right vocal cord, of which he was not able to discover the cause: possibly in this case it was due to disease of the top of the pleura. He did not agree with the other part of the title, viz., "impaired abduction of the other cord": from his own view it moved quite freely. Dr. StClair Thomson's suggestion of influenza ought to be taken into account. He had a patient who suffered from influenza and had recurrent paralysis, which remained for some weeks. The patient then became convalescent and got well again.

Sir FELIX SEMON said he had seen several cases of laryngeal paralysis after influenza, amongst them those of two medical men, who both got well in a short time. With regard to Dr. StClair Thomson's question as to the age of these cases, he had seen loss of abductor power in patients of one and a half to five years of age.

The PRESIDENT remembered seeing a case with Sir Felix Semon, which almost completely recovered: he had also reported to the Society a case of double abductor paralysis in a child of six.

Dr. STCLAIR THOMSON said he had shown a case undoubtedly due to influenza, which had cleared up between the announcement and the patient's appearance at the meeting, but in that case the patient had had the paralysis only six months, whereas in the case under notice the disease was of three years' standing.

Case of Laryngeal Ulceration with Calcification of the Fascia of the Neck. Shown for Mr. CHARTERS SYMONDS by Mr. STEWARD.

The patient, a woman aged thirty-two, complained of loss of voice and difficulty in breathing, and gave the following history:

When a child she had an abscess on the right side of the neck, and at about the same time she became deaf.

About ten years ago swelling and stiffness of the neck began, and this has gradually increased since that time.

The present attack of hoarseness commenced three months ago. The patient is very deaf, the skin is pallid, the bridge of the nose is broad and flattened. The eyes and teeth are normal. Just behind the angle of the jaw on the right side is a large scar. The whole of the structures in the front of the neck are hard and matted. There is great thickening around the hyoid bone and thyroid and cricoid cartilages, and these structures appear to be united into a dense hard mass.

There are several enlarged glands in the submaxillary region, and lower down in the neck are several very hard nodules, one par-

ticularly hard being situated in the right sterno-mastoid muscle. The soft palate and pharynx are much scarred and are adherent to one another.

The upper opening of the larynx is red and swollen, and there is ulceration of the right ventricular band.

Sir FELIX SEMON said that he had a strong suspicion that this case was specific. The configuration of the patient's face and the large distance between the eyes pointed to congenital syphilis. With regard to the pharynx, the adhesions are very characteristic of either tertiary or inherited syphilis.

Dr. WILLIAM HILL said that Mr. Symonds was doubtful as to the correctness of the term "calcification." To him it seemed to be an extensive line of scars rather than calcification.

Mr. STEWARD said that the whole thing might be syphilitic. There was considerable swelling on the right side of the larynx, loss of voice, and troublesome dyspnoea, which is steadily getting worse in spite of calomel baths and doses of iodide of potassium for three weeks.

Case of Sloughing Ulceration of the Pharynx. Shown by Mr. STEWARD for Mr. CHARTERS SYMONDS.

Male, aged thirty-one, has always been healthy till nine months ago; has no history of syphilis.

At the end of October, 1898, patient had a thick discharge from the nose, with headache and pains in the back. Shortly after this a hard round lump appeared below the left ear, and a similar lump soon appeared on the right side. These were followed by other lumps, which coalesced to form large swellings. Later the tonsils were enlarged, and a large ulcer with yellow surface appeared on the left one, and soon afterwards the right tonsil became similarly affected. The left tonsil healed, but the swelling in the neck steadily increased.

When first seen on December 11, 1898, there was a large ulcer involving the lower part of the right tonsil, and extending on to the base of the tongue. The ulcer was covered with yellow slough, and the edge was hard, raised, and indurated. There were also large masses of swollen glands on each side of the neck; some of these were soft and fluctuating, others quite hard.

The patient was ordered iodide of potassium in increasing doses, and for a time improved.

On March 9 the ulcerations had considerably increased, as had also the swellings in the neck. Small hard glands were found in the left axilla and right groin. Calomel vapour-baths were ordered

in addition to the potassium iodide, and on March 14 the ulcers were curetted, and then cauterized with nitric acid.

After this considerable improvement took place and the throat nearly healed, but early in May a relapse occurred, and spread of ulceration took place.

On the 9th several softening glands were opened and curetted, and one was removed; the throat was also again curetted.

The softened glands contained a semi-fluid material of yellowish-brown colour. Microscopically the excised gland showed caseating foci and a small-celled infiltration, but no definite evidence of tubercle.

Mr. CRESSWELL BABER said that in his opinion the case was syphilitic.

Sir FELIX SEMON thought there was little doubt it was a case of lympho-sarcoma, and advised the administration of arsenic. He had seen three or four such cases in which tumours had formed and disappeared almost entirely; suddenly they would appear again and assume a serious form. He always treated them by increasingly big doses of arsenic.

Mr. STEWARD said the man had been treated with large doses of iodide and mercury, but had not had arsenic. It might be of interest to mention that the man had several glands in the right axilla and in the left groin. As regards the examination of the stuff from the opening in the neck and gland, the view of lympho-sarcoma was supported. Under the microscope was seen a mass of small round cells, with fair-sized nuclei, and there were caseous foci in the gland itself. No tubercle bacilli were found.

Dr. WILLIAM HILL thought if the suggested arsenic treatment was of no avail it would be well to try electrolysis.

Tumour of the Nasal Cavity. Patient and specimen shown by Mr. CRESSWELL BABER.

A female, aged sixty-six, came as out-patient on March 17 last, complaining of right nasal obstruction since the previous summer. She had also had a sore throat and pain in the right ear. No deafness. A large polypus was snared from the right nostril. On April 7 a polypus was felt in the right choana with the finger, and snared from the front. April 14.—Right side still much obstructed, also much muco-purulent discharge. Posterior rhinoscopy, with the aid of the palate-hook, showed a red growth in the right choana; two more pieces of reddish, friable growth snared from the front. May 1.—On palpation, a small mammillated movable growth was felt in the right posterior naris. May 2.—The growth could be

just discerned from the front, and was movable, but whether it grew from the inferior turbinated body or from the outer wall of the nasal cavity could not be ascertained—it was not attached to the septum. Transillumination on April 21 and May 2 showed both infra-orbital regions light. No enlarged glands.

The growth removed on April 14 was reported on by the Clinical Research Association as “columnar-celled carcinoma arising from the nasal mucous membrane.” I decided to take steps to lay the disease freely bare, so that its extent could be more clearly seen, and, if necessary, a radical operation performed. With this object, on May 6 I removed, under general anæsthesia, the growth in the posterior naris with the spoke-shave, and subsequently the inferior turbinated body with the same instrument. The outer wall of the nasal cavity was then freely curetted with a large sharp spoon. Afterwards, on inserting the little finger into the nasal cavity, I could feel that there was an aperture in the antrum, probably the result of the curetting. The growth was soft and irregular. The patient recovered from this well, and has been kept carefully under observation.

Her present condition—more than three weeks after the operation—is as follows: There is some dirty-looking, fœtid, mucopurulent discharge coming from the right nasal cavity. In consequence of the removal of the inferior turbinated body the nasal cavity can be easily inspected. The only sign of the growth is what looks like small, rather vascular roots of mucous polypi between the lower margin of the middle turbinated body and the outer wall. No growth seen by posterior rhinoscopy, though there is a red spot on the margin of the right choana at its upper outer part, where the last growth may have sprung from. Still plunging pain in the right ear. Both antra light up on transillumination, but the right seems a shade darker than the left. Possibly some of the discharge may have got into the antrum.

Mr. Baber asked the opinion of members as to the malignancy of the growth, and the advisability of further operative measures.

Dr. PEGLER thought that the growth was not malignant; one corner of the slide showed doubtful-looking cells, but not characteristic of carcinoma. He suggested the specimen should be referred to the Morbid Growths Committee.

Dr. WILLIAM HILL asked whether it was ulcerated on the surface, and if there was any hæmorrhage before operation. It was not possible to make a diagnosis, as the sections did not go to the root of the tumour.

Mr. BABER said Mr. Butlin had seen them, and thought the case was one of carcinoma.

Dr. WAGGETT said it would be a valuable section to have in the cabinet for reference in subsequent years.

Mr. BABER said he would do no further operation unless there was a recurrence.

The PRESIDENT moved that the specimen be referred to the Morbid Growths Committee. This was adopted.

Specimen of Epithelioma of Esophagus causing Bilateral Paralysis of Vocal Cords. Shown by Dr. CLIFFORD BEALE.

L. H.—, aged thirty-three, female domestic servant, admitted January 13, 1899, for cough and muco-purulent expectoration of long standing, with some dysphagia and occasional dyspnoea. The patient was a good deal emaciated, and complained of recent acute tenderness of the left side of the thyroid. Some swelling and tenderness was present. On examining the larynx the vocal cords were seen to be normal in appearance, but lay during normal and forced respiration in the cadaveric position. On phonation they were brought together, and a fair volume of sound was produced. While under observation in hospital many attacks of adductor spasm occurred, and the voice gradually got feebler until it was lost altogether. The sensation within the larynx was unimpaired. Tracheotomy became necessary, and gave immediate relief. Dysphagia increased, especially for solid food, and it was noted that fluids and sometimes solids were occasionally regurgitated through the tracheotomy tube; and hence, after a short period of rectal feeding, gastrostomy was performed, and the patient was fed directly into the stomach for the five weeks preceding her death. The constant welling-up of muco-pus from the oesophagus, and the occasional regurgitation of the food in the stomach, led by slow degrees to a septic broncho-pneumonia, which was the immediate cause of death on April 19, 1899.

The specimen showed infiltration of the mucous membrane and submucous tissue of the oesophagus by a cancerous growth. The growth began below the level of the larynx, and extended for about 2½ inches downwards, embracing the whole lumen of the tube. At the anterior part a perforation communicating with the trachea was visible. The oesophagus above and below the growth was healthy though somewhat engorged. The thyroid body was enlarged and thickened in both lobes, being exceedingly tough and fibrous on section. The trunk of the vagus was seen to be compressed, together with the vessels, on one side, while the recurrent

laryngeal nerve could be traced into the body of the thickened thyroid gland on the other side. No other cancerous growth was discovered in any part. The growth in the œsophagus was a typical epithelioma.

Case of Unusual Pharyngeal Tumour. Shown by Sir FELIX SEMON.

The patient, a female, was shown at the March, 1898, meeting of the Society, and was now again brought forward to show that the condition remained absolutely *in statu quo*.

Dr. WILLIAM HILL asked Sir Felix Semon to explain why he took such pride in keeping this tumour.

Sir FELIX SEMON had the greatest pleasure in answering that question; he did not feel justified in doing anything because he did not know what the growth was or how far it went. That it was intimately connected with the vagus he suspected, because the least pressure caused coughing and retching; meanwhile it caused the patient no inconvenience whatever.

A Case of Stricture of the Larynx following Tracheotomy for Diphtheria successfully treated by Dilatation. Shown by Dr. LAMBERT LACK.

The patient, a child, aged six, had tracheotomy performed for diphtheria one year ago. Three months later, it being impossible to remove the tube, an exploratory thyrotomy was performed by Mr. Stanley Boyd, and an ulcer of the larynx with much granulation tissue, almost completely obstructing the lumen, was found just below the vocal cords. The granulation tissue was removed and the wound allowed to heal. Attempts were then made to dilate the stricture of the larynx by intubating with O'Dwyer's tubes; but after a month of intermittent treatment this method was abandoned, its tediousness and painfulness seriously affecting the child's health. It was then resolved to dilate the stricture from below. A metal plug fitted with a shield to fit over the tracheotomy tube was made. Under chloroform the tracheotomy wound was enlarged and the stricture forcibly dilated with curved forceps; the plug and the tracheotomy tube were then inserted. The plug was worn continuously for five months without causing any inconvenience; it was then removed, and the tracheotomy tube was corked up. The child being able to breathe freely through the mouth both day and night, after a month the tube was dispensed with. The wound soon healed, and the patient now—a month later—seems cured.

The PRESIDENT congratulated Dr. Lack on his success in this

case. Many attempts had been made and much time had been spent in trying to dilate laryngeal strictures, but generally in vain.

Dr. LACK, in replying to a question by Dr. Permewan, said that the dilatation was done through the tracheotomy wound with ordinary dilators and a plug inserted to keep the parts dilated, and worn for about five months continuously. He had treated the case with intubation tubes, but directly they were left out the trouble recurred.

Case of Node in Nasal Process of the Right Inferior Maxilla and Ulcerative Rhinitis in a Tubercular Girl. Shown by Mr. ATWOOD THORNE.

The patient, a girl aged seven, came to St. Mary's Hospital complaining that for the last two months the nose had been gradually growing broader, and the nostrils becoming increasingly blocked. The trouble was attributed to a fall on the nose.

On examination there was found a mass as large as a hazel-nut attached to the nasal process of the right superior maxilla, and there was some swelling in a similar position on the left side. The nostrils were almost completely blocked by pale granular masses, and there was a thin watery discharge from there.

With the exception of a very small opacity of the left cornea (said to be due to an accident) there was nothing to suggest congenital syphilis, while the patient had been in St. Mary's for the treatment of a tubercular ulcer of the foot, and had had an operation at Golden Square for enlarged cervical glands.

The PRESIDENT asked if the nasal secretion had been examined for tubercle bacilli.

Dr. HILL suggested the case was a mixture of syphilis and tubercle.

Case of Tumour of Palate in Woman aged thirty-four. Shown by Dr. BOND.

The swelling was first noticed twelve years ago shortly after the extraction of three teeth. It slowly increased in size, but lately has grown more rapidly. There is now an elastic, painless, non-tender swelling covering the hard palate, and extending into the alveolus on the right and also into the soft palate. It is rather more dusky than the normal mucous membrane; in the centre is a paler area. There are no enlarged glands in the neck. The floor of the nose is normal.

The growth was thought by several members to be an adenoma. Dr. Bond proposed to report further on the case after operation.

Mr. DE SANTI took the swelling of the palate to be an adenoma, and considered it would be quite an easy matter to dissect it out.

Dr. WATSON WILLIAMS said that many years ago one of the first cases he saw in a young girl about fourteen was very similar to this. The tumour had existed for some years, and was increasing in size very greatly. It contained numerous small cysts. He had opened the growth and introduced weak chromic acid, with the result that the growth was inflamed for some days and soon after disappeared entirely, and had not recurred a few years later.

Dr. BOND said he proposed attempting to remove the growth in a few days.

Female aged twenty-six, with Large Sarcomatous Tumour of the Naso-Pharynx. Shown by Dr. STCLAIR THOMSON.

Though not by any means rare in early life, this case was shown as an example of malignant disease in a young adult. The patient had traces of having been operated upon for tuberculous glands in the neck, and it was therefore a little difficult to see whether the glands, which were now evident on each side of the neck, were also tuberculous, or whether they were secondary to the malignant growth. They were sufficiently hard. The growth pushed forward the soft and hard palates without invading them. It completely obstructed the choanæ, and had seriously interfered with swallowing and breathing. The author invited discussion as to whether an attempt should be made to remove the growth, and as to whether the patient should have tracheotomy or gastrostomy or both.

Mr. DE SANTI looked upon this swelling as probably of a malignant nature; its rapid growth and general appearance were consistent with such a diagnosis. The glands, though originally the patient had had tubercular cervical glands removed, were probably sarcomatous. Though the case might be one of mixed infection, tracheotomy should be done soon, and then an attempt to explore the palatal growth might be made. It would be interesting to know the microscopic appearances.

Dr. BOND thought that tracheotomy ought to be done; then it would be possible to get away some of the mass from the mouth: a large part might be snared off. In any case, after tracheotomy it should be thoroughly examined with the finger. He thought something might be done to relieve the case for a time.

Dr. TILLEY asked if the glands were secondary to the particular growth in the palate or independent.

Dr. STCLAIR THOMSON was encouraged to follow the advice given. The woman had had tubercular glands in the past, and he thought they were not secondary to this growth.

A Case of Laryngeal Disease for Diagnosis. Shown by Mr. E. W. ROUGHTON.

A man aged forty-two, suffering from hoarseness, cough, and dyspnoea of three months' duration. There was a swelling involving and fixing the left cord and arytenoid. No evidence of tuberculosis and no history of syphilis. He asked for a diagnosis.

Mr. DE SANTI was of opinion that this case was a case of epithelioma. There was marked infiltration of the parts and very impaired mobility. Moreover, the redness was quite unilateral, and fulness could be seen below the cord. An early laryngo-fissure was urgently needed.

Dr. WILLIAM HILL said he was inclined to think it was malignant. There were no glands on the outside; it was the sort of case well suited for an exploratory thyrotomy.

Sir FELIX SEMON suggested removing a piece first.

Mr. ROUGHTON said there was nothing to catch hold of; he might puncture the arytenoid cartilages, and most of the growth was lower down. Mr. Roughton had no definite suspicion of its nature.

Dr. STCLAIR THOMSON said the cord was quite fixed, and the growth extended below the cord. He thought it a good case for laryngo-fissure.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held at Chicago, May 22, 23, 24, 1899.

President, Dr. WILLIAM E. CASSELBERRY, of Chicago.

First Day.—Monday, May 22.—Morning Session.

PRESIDENT'S address: This association was organized in response to an invitation sent out by the late Dr. Frank H. Davis, of Chicago, who may thus be said to have been its real founder. It is therefore eminently fitting that we should meet in the city where the founder lived and worked. The time-honoured custom of an address from the President affords opportunities for dwelling upon various matters which might not be appropriate for any set paper or discussion. I therefore beg leave to call your attention to some of the topics which may thus properly be considered. All are doubtless conscious of the changes wrought in laryngological practice by the advance of nasal pathology, and by the inclusion of the ear in the sphere of work. The laryngologist formerly treated

diseases of the throat and chest. Now he tends to be a surgeon with a routine of practice limited to local measures applied to the upper respiratory area. We should strenuously deprecate the tendency to deal with the nose and throat exclusively in a mechanical way, and as if they were parts without organic relation to the rest of the body. Such a view engenders narrowness of thought, and the practitioner thereby loses much of that fundamental knowledge of pathology and applied therapeutics so demanded by the patient's best welfare. The proper care and treatment of nasal troubles are by no means effected simply by boring a hole through the nares and thereby making them patent, though the ill-advised procedures of many posing as laryngologists would seem to indicate that such was the case. It is freely conceded that the ear and nose stand in intimate relations. The laryngologist must treat aural affections, and he should cultivate an exhaustive knowledge of this branch of medical science. Care should be taken not to neglect, in enthusiasm for the ear, the original laryngological study. Such a tendency to render undue homage to the ear is shown in the use of such words as otolaryngology, otorhino-laryngology, etc. In addition to this, there are many in the smaller towns who combine eye-work with that of the nose and throat, and hence there are many posing as laryngologists whose education and restricted routine of practice put them out of touch with many pertinent phases of the subject. The laryngologist of to-day should constantly endeavour to make the real diagnosis in the earliest stage of lung tuberculosis. Many of these patients are liable to come first to him complaining of cough, irritable throat, husky voice, and inclination to nasal inflammations. While they may complain only of throat trouble, they should be exhaustively examined. The conventional injection, spray, or cauterization does not suffice. The laryngologist need not embrace in his practice the entire broad field of chest diseases, but he should be familiar with every art of diagnosis and every therapeutic resource in order to do his patient justice. For the former he should keep himself proficient in the making of physical examinations of the chest, should carefully note the height and weight of his patients, their chest conformation and perimeter, should ascertain the vital capacity, be able to stain for bacilli, and be versed in the use and interpretation of the tuberculin test. Incipient infiltration of the larynx, disclosed only by the mirror, may afford the earliest clue to the existence of pulmonary trouble. The presence of polypi in the nose, with degeneration of the middle turbinal and unassociation of sinus disease will enable us to exclude tuberculosis in favour of bronchial asthma or chronic broncho-

pneumonia. Inspection of the throat will also frequently reveal the cause of cough or hæmorrhage, which otherwise might be regarded as evidence of pulmonary mischief. Attention must also be given to the heart, aorta, and mediastinum. Aneurismal pressure will often show itself by the paralysis of a vocal cord. In old persons an elongated uvula will often appear to be the cause of an irritable cough, but a more careful examination may reveal an enlarged heart with valvular lesions. Hence, while the uvula may be an exciting factor in the production of the cough, the underlying cause must be attributed to the irritability of the respiratory tract brought about by failing cardiac compensation.

The laryngologist should also be a good systematic therapist, and cultivate the habit of careful prescribing. He should study the conditions of natural immunity and susceptibility, so that he may be able to designate the proper mode of life and place of abode best adapted for each individual case, familiarizing himself with sanitation, hydrotherapy, climatology, and sanitary methods. Reports from the Rocky Mountain region show that 20 per cent. of cases of laryngeal tuberculosis can be cured in that locality, and that an additional 20 per cent. can live along greatly improved for an indefinite period.

In connection with bronchial asthma, present-day studies in nasal pathology establish the fact that vaso-motor changes are at the bottom of many of these cases, which are accompanied with polypoid changes in the ethmoid region. The laryngologist should be ready to assume complete charge of all such cases, treating them along broad therapeutic lines.

All laryngologists are familiar with many throat conditions which appear as salient features of underlying systemic states. Oedema of the larynx is often secondary to nephritis; laryngeal ictus is often the forerunner of tabes. Hence the true clinician in the special field of laryngology should be first of all a good physician, and after that a specialist. Nor need a man with this breadth of view be any less skilled in the operative technics of tonsillotomy, in the rectification of deflected septa nasi, in the surgery of sinusitis, and in mastoid affections. He can appreciate the disadvantage of nasal obstruction just as well as another who perceives that alone.

Gentlemen, we have met to aid each other in the search for more truth. Let us profit by each other's experience, search along more liberal lines, and endeavour to realize that conception of power phrased by the Sage of Concord: "A cultivated man, wise

to know and bold to perceive, is the end toward which Nature works."

Is the so-called American Voice due to Catarrhal or other Pathological Conditions of the Upper Air Passages? By Dr. JOHN W. FARLOW, of Boston.

He said that the so-called American voice was characterized by a peculiar nasal twang, which was quite distinct from the vocal modifications arising from faulty conditions in the fauces and larynx, which are not here considered. Such latter were the thick voice of enlarged tonsils and the voice of low carrying power, due to various laryngeal affections. Any interference with the free passage of air through the nares impaired vocal resonance, but did not produce the peculiar American nasal voice. Anterior deviations and spurs of the nasal septum occasioned abnormal air vibration in the nose, as also did a narrowing of the organ at the tip, especially when it was bent downward. Anterior turbinal enlargements and polyps acted in a similar manner, and in the same category might be included chronic catarrhal inflammation of the nasal mucosa without hypertrophy. From all these causes there resulted anæsthesia and paresis of the soft palate; hence some tones which should be formed in the mouth were produced in the naso-pharynx at a higher level. This was probably the reason why the nasal twang persisted after operations had been done for adenoids, for it took some time for the palate to grow out of its parietic condition. The twang did not seem to be caused by merely atrophic conditions. For purposes of study we might group our patients into three classes, according to age—below twelve, between twelve and thirty, and over thirty years. In the first class, nasal voice was very common, but the foregoing lesions, which might be regarded as its cause, were not especially frequent at this stage of life. In the second class, the lesions were more common, but this particular variety of voice was less so. In the third and older class, nasal voice was comparatively infrequent. From this line of reasoning, it followed that the nose alone did not determine the classification into nasal and non-nasal voices. Voice-training would often improve its quality without any special intervention, medical or surgical. In short, pathological conditions seemed to have far more influence on the range and power of endurance of the singing voice than upon its quality in the median register. In children, nasal voice was often only a matter of imitation, cured by placing them with persons who spoke properly. It must be stated also that the possession of an agreeable voice was quite compatible with

the existence of abnormal anatomical conditions. All civilized races presented anterior obstructions. The great emigration of all nationalities to this country had introduced into our common speech all sorts of bizarre vocal sounds, and we were very careless as to the best methods of speaking. Yet some of the most pronounced nasal voices were heard in country villages, where the population was purely native. The necessity of properly training children's voices could not be too strongly urged. They should be removed as far as possible from vicious influences in this respect. Every autumn our newspapers were flooded with advertisements of singing teachers, each one of whom claimed to possess the correct method, but only one person sang while a hundred talked. People fell into the conversational habits of the community in which they lived, and made no effort to better faulty methods.

Discussion of this paper was opened by Dr. G. HUDSON MAKUEN, of Philadelphia, who deplored the lack of attention given to tone formation as a rule. The medical man knew little about the subject, but the laryngologist especially should be in a position to instruct the singing teacher. The excessive tension of our American life was partly the cause of the nasal voice, and we must learn to cultivate the teachings of the "gospel of relaxation," for our American push was fast assuming the proportions of a national calamity. So far as the anatomical factor in this question was concerned, the low-hanging palate during speech was probably the prime element, as it centred the vibrations of sound-waves in the naso-pharynx. By practising before a mirror with the mouth open, the patient could learn to give the proper tone to the levator palati muscles.

Dr. T. AMORY DE BLOIS, of Boston, thought that the peculiar quality of voice was largely a racial question. The guttural of the German, the vibratory nasal voice of the French, and the high-pitched tones of the Yankee were familiar illustrations, while the English voice among all social ranks was of an agreeable low pitch.

Dr. JOHN O. ROE, of Rochester, called attention to the "resonator" office of the nasal sinuses, the size and shape of which strongly modified the voice. Their influence was not cut off by anterior obstructions, but posterior ones greatly affected it. The structure of a given language affected voice tone. Languages with many consonants, as German and Russian, gave low-pitched voices, while one with many vowels, as French, gave the opposite.

Dr. A. W. DE ROALDES, of New Orleans, mentioned American conversational habits, instancing the fact that racial mixtures and the easy mode of living in the South produced lower-toned voices

than different conditions in this respect in the North. Negro voices were rarely high-pitched.

Dr. THOMAS HUBBARD, of Toledo, ascribed to the noise of our American cities much of the prevalent high-pitched speaking. This was necessary in order to make one's self heard. From the noisy environment, also, the ear became dulled, and the appreciation of vocal misuse was blunted.

In closing the discussion, Dr. FARLOW expressed the view that the low palate was often due to lack of use, but he could not look upon it as the initial cause of nasal voice. Its causative relation was secondary, not primary. So far as the influence of the sinuses was concerned, he would remind the Association that nasal voice was most common in children in whom the sinuses were scarcely at all developed. Voice was but very little due to language, for English was spoken in many lands, none of which presented the American nasal tone. As to city noises, the most pronounced twang was often heard in the quiet village.

Adeno-Carcinoma of Nose, with Report of Case. This was a paper by Dr. JAMES E. NEWCOMB, of New York.

The Transactions of the Association for two years ago contained the report of two cases of this nature, and allusions in all to twenty-three other cases in which the clinical diagnosis had been verified by microscopical observation. The additional case to be reported was that of a woman, aged sixty-one years, who had suffered for nearly six months, before coming under observation, from daily nose-bleed, with obstruction of the left naris. Bleeding had been severe on one or two occasions, but had never required any operative interference. There was some emaciation. Three months before coming under observation she had blown from the nostril what was probably an ordinary polyp. Examination showed enlargement with polypoid degeneration of the left middle turbinate. Around it were several fleshy proliferations, which bled easily upon manipulation. Pressure symptoms and glandular enlargements were absent. Masses were removed under cocaine. The pathologist's report was adeno-carcinoma. The patient has thus far refused radical operation. Some six authentic cases of this nature have been reported during the last two years. Cancer of the nose is rare. Gurit was able to find only four cases among 9,554 cases of cancer of all organs. It was claimed that the association of ordinary polyps with carcinoma was only a coincidence. Tissier, who has written at length upon this phase of malignant disease, does not believe that the epitheliomatous degeneration of simple

polypi had ever been definitely proven. What we know about the etiology of nasal polypi would explain their occurrence in a cancerous nasal fossa. On the other hand, Plieque stated that it was pretty frequent after the ablation of numerous benign polypi to find new polypi appearing, this time composed of epitheliomatous tissue. Dr. Newcomb thought the latter statement incorrect, for polypi were very numerous and often removed by very crude means, while the occurrence of cancer here was very rare. Mention was made of a surgical procedure suggested by Dr. Dawbarn. It consisted of the ligation on both sides (a suitable interval occurring between the two operations) of the eight branches of the external carotid artery, and then of the excision of the entire trunk of this vessel in the attempt to starve the growth by shutting off its blood-supply.

Dr. G. V. WOOLEN, of Indianapolis, mentioned the case of a girl of eight years who had in the nostril what appeared to be an ordinary polyp, which came on two years after an injury. Removal was followed by recurrence. The microscopist reported on the original polyp that it was non-malignant, and only mucoid in character. The later clinical history showed that it was malignant, and it extended over so wide an area as to be inoperable.

Dr. J. L. GOODALE, of Boston, spoke of the case of a man aged fifty-one years from whose nose polyps had been annually removed for some years. The last removal was in May, 1898. Five months later there came on exophthalmos, pain, and nasal obstruction, with the left naris full of a soft bleeding mass, which was removed and showed a fibrous stroma with epithelial cell nests. Recurrence took place.

Dr. THOMAS HUBBARD, of Toledo, said that he had under his care a farmer who had had antral suppuration for seven years. Later a growth appeared within the antrum and thence extended into the naris. Examination of a portion removed revealed the presence of cancer.

Removal of a Foreign Body from the Bronchial Tube through a Tracheal Opening. This paper was by Dr. A. COOLIDGE, Jun., of Boston.

The patient, a young man aged twenty-three years, was tracheotomized in early childhood and had worn a tube ever since. The last one, of hard rubber, from long use gave way, the tube proper becoming detached from the shield and being inhaled. Severe cough with difficult and noisy breathing was present on admission to the hospital twelve hours later. An X-ray examination was negative. He was etherized and placed on his back, with

head extended and rotated to the right. The original tracheal wound was enlarged downward and to the right. A urethroscope half an inch wide and three inches long was passed down (with stylet in position); the stylet was then withdrawn and the speculum without difficulty pushed down the trachea to within an inch of the bifurcation. A hand-mirror and sunlight afforded suitable illumination, by which means the upper end of the tube was seen in the right bronchus about half an inch below the bifurcation. A pair of alligator forceps passed through the speculum effected its removal without disagreeable after-effects. During the entire operation breathing was carried on through the tube. Cocaine had been applied to the tracheal mucosa, so that there was no inconvenience from secretion, though at first the cough caused some annoyance. Septic pneumonia was the ever-present danger when foreign bodies in the air-passages were treated on the expectant plan. Hence it was necessary to have well-defined courses of procedure to follow as occasion required. When the body was so large as to lead one to believe that it was still in a main bronchus, tracheotomy with exploration by straight tubes was the course to follow. If the smaller size of the body had carried it down to a secondary bronchus, we might still operate if there was a good chance of reaching it after illuminating the primary bronchus. This might be done, especially on the right side. A body which was moving to and fro in the windpipe was not so dangerous as the same body impacted in a bronchus. We should therefore sedulously avoid everything calculated to excite respiratory spasm. Consequently cocaine was preferable to ether for tracheotomy. Occasionally it might be possible to pass a straight tube down through the glottis, but care must be taken to avoid pushing a loose body farther down. Here it was wiser to attempt to reach it by tracheotomy from below. The most rigid rules of surgical cleanliness must be followed. We knew that the lower trachea and the bronchi were quite flexible, and this was a favouring circumstance, as it allowed us to bring into a straight line the bronchus under observation.

Dr. H. L. SWAIN, of Newhaven, related the histories of two cases. Statistics showed that foreign bodies were frequently expelled, sometimes months after they had found lodgment. Then ulcerative processes caused their dislodgment. In one of the cases mentioned by him a shingle nail had remained in the bronchus for several months, when the patient was struck by a train and knocked senseless. Upon coming to he was seized with a fit of coughing, and the nail was brought up.

Dr. ROE declared that, after looking over the statistics of

thousands of cases, he had come to the conclusion that the best procedure was to leave the body alone if it was not producing active symptoms, for in the vast majority of cases the body had been expelled later.

Dr. ROALDES believed that operation should not be deferred. In eight cases which had come under his personal observation, operative intervention had been undertaken, and the body was removed in seven. A low tracheotomy should be done, and the bronchus titillated so that a reflex cough would be set up, the edges of the tracheal wound being held widely open. He would object to the Association's advising a policy of non-intervention in this class of cases.

Dr. WOOLEN thought that if there were no immediate symptoms, and if the body was of such a nature that it might as a possibility be easily expelled, it was prudent to wait; but if the reverse conditions obtained, one should operate at once.

Exhibition of a Case of Stammering, with Demonstration of the Methods Employed in Treatment. This paper was read by Dr. G. HUDSON MAKUEN, of Philadelphia.

His patient was a civil engineer, twenty-nine years of age, who had suffered since childhood without assignable cause. The condition appeared to be the outcome of a congenital neurosis. The main feature of this defect was a spasmodic action of the palatal muscles whenever attempts at speech were made. There resulted a sudden closure of what the writer would call the posterior palato-lingual chink. The frequency and duration of the attacks varied. They came on at most unexpected times, giving the speech a jerky character and at times stopping it completely. Attempts at reading increased the difficulty, and the patient seemed at times to be unable to think connectedly. We must study out the site of the neurosis in each individual case, for no two were exactly alike. A younger brother of this particular patient began to stammer, but was cured by giving attention to his malady. The occurrence of the speech difficulty in two members of the same family, and at such an early age, rendered the theory of a congenital neurosis in this particular case extremely probable. In the patient shown, the chief neurosis was in the nerves going to the respiratory and not those going to the pharyngeal muscles, the spasm of the latter being secondary and due to a reflex overflow of nervous energy from the respiratory and vocal mechanisms. The vocal element of speech was lacking in promptitude. It was as if the bow-hand of one playing the violin should cease to operate in unison with the string-

fingers, and as if the latter should try by increased energy of action to make up for the defective bowing. This forced and unnatural fingering had its counterpart in articulatory and other spasms of the stammerer. Normal speech was characterized by automatic action of the various muscles, and when any portion of the complex mechanism failed to functionate, this automatic sequence was broken, and stammering resulted from a failure to make the various sets of muscles co-ordinate. In this particular case, inasmuch as the primary fault was in the respiratory mechanism, resort was had to direct nervimuscule training. In this the faulty muscles were singled out and by voluntary exercises made to act properly. This plan was superior to the indirect method, which led the patient unconsciously by means of correct speech to use the muscles properly. The advantage of the former was that it developed the nerves as well as the muscles, and established a volitional control over the faulty mechanism. The essential parts of the respiratory mechanism were the thorax, the muscles regulating its size, and the nerves supplying them. The muscles were divided into two sets according as they elevated or depressed the ribs. The levators were inspiratory and the depressors expiratory. We could train our patients to develop the action of any of these muscles, even the diaphragm. Then we could combine the muscular mechanism with the vocal.

At the close of the morning session the following specimens and instruments were exhibited: By Dr. FARLOW, large adenoids removed from a woman fifty years old, also an intranasal splint. By Dr. SWAIN, for Dr. THOMAS R. FRENCH, of Brooklyn, post-nasal forceps, mouth-gag, and a modification of Bosworth's nasal speculum. By Dr. COOLIDGE, a nasal splint for external injuries, and a laryngeal applicator devised by Dr. J. Payson Clark, of Boston. By Dr. CASSELBERRY, a nasal snare.

Afternoon Session.

Septic Phlebitis with Thrombus as a Complication of Peritonsillar Abscess; Report of Two Cases. This paper was by Dr. M. R. WARD, of Pittsburg.

Dr. WARD briefly discussed the pathology of this condition, saying that the lungs were most frequently infected, an infarction resulting with subsequent septic pneumonia and even gangrene. Less frequently the liver suffered, along with the kidney, spleen, and brain. He had been unable to find recorded more than three cases exactly identical with his own, and gave a summary of the clinical features of each. His own first case was that of a woman

thirty years old, who for three weeks had pain and soreness in the left tonsil. These subsided, and then in three days a tumour appeared in the right side of the neck with right peritonsillitis, though no fluctuation could be made out. The post-cervical glands were swollen, as were also the muscles of the neck, and the temperature rose to 102° F. Soon pain developed in the lower portion of the right lung, with a speedy chill and a pyæmic course. Pus was present under the superficial fascia of the neck. No connection between this focus of inflammation and the abscess about the tonsil could be made out. The pneumonia extended, and the patient died on the ninth day. A thrombus was found in the internal jugular extending up to the tonsillar plexus. The second case was that of a German, aged forty-two years, who died four hours after admission to the hospital. It was found that he had had a left peritonsillar abscess which had been incised, and that two days later his symptoms returned with chill and a commencing pyæmia. He died on the sixth day. The autopsy findings were the same as in the case preceding, with, in addition, the presence in the kidneys of numerous small abscesses.

Report of Cases of Chronic Empyema of the Antrum of Highmore. Operated upon by the Caldwell-Luc Method. This was a paper by Dr. A. W. DE ROALDES, of New Orleans.

Five cases were reported. In all of them a radical and speedy cure was obtained. The writer expressed surprise that his plan of operation, originally devised in this country, had not been more generally followed. It was believed to be superior to the older plans. The various steps of the operation could be summarized as follows: (1) A buccal incision was made parallel with and near enough to the upper gingivo-labial fold in order to allow of the subsequent easy union of the muco-periosteal flaps. (2) The anterior wall of the antrum was opened in the canine fossa, the opening being ovoid in shape. Its extremities gave easy access to the tuberosity on one side and to the nasal wall on the other. (3) The cavity was thoroughly curetted and all diseased tissue removed. (4) A portion of the anterior extremity of the inferior turbinate was removed. (5) A large artificial opening was made in the nasal wall of the antrum as close as possible to the angle formed by the floor and anterior wall. (6) The cavity was finally inspected, cleansed, dried, and lightly dusted with iodoform, followed by suture of the muco-periosteal flaps. Iodoform gauze was gently packed into the antrum and also in the nasal fossa, changed on the third to fifth day, and afterward on alternate days until about the

twelfth day. The patient was then allowed to irrigate the cavity with a syringe and cannula, using boric-acid solution. In all the cases forming the basis of the paper radical cure resulted in from four to six weeks. In one of them a little secretion could sometimes be found at the entrance of the sinus, but this was ascribed to an old ethmoidal trouble, the pus leaking into the sinus through an opening in its nasal wall from old necrosis. Dr. Roaldes dwelt especially upon the importance of locating any other possible focus of suppuration, as the latter might prove a serious complication or materially retard healing.

In discussing this paper, Dr. ROE remarked that one should bear in mind the level of the antrum floor with reference to that of the nares, and also the fact that pockets and septa might exist in the antrum.

Dr. E. L. SHURLY did not think that operation was always necessary. Dentists and general surgeons were more likely to see these cases frequently than was the laryngologist. The acute form of the disease, such as followed upon influenza, often got well of its own accord, while in the chronic cases curetting was often necessary. He thought that the opening into the nasal cavity would offer far greater likelihood of infection than one into the mouth.

Dr. MAKUEN observed that the law of gravitation did not seem to hold good in drainage of the antrum. There seemed to be a sort of capillary drainage going on which was increased by nasal respiration.

Dr. G. A. LELAND, of Boston, called attention to the fact that man was not always an upright animal, and that the cavity drained by gravity when he lay down. The establishment of free drainage through the natural openings would often cure the discharge. The Caldwell-Luc operation was in reality a combination of those of Mikulicz and Jansen.

Acute Suppurative Processes in the Faucial Tonsils. Dr. J. L. GOODALE, of Boston, read this paper, which was based upon a study of eight cases of intrafollicular abscesses.

He would desire to mention especially the etiological relation of special bacteria to this form of abscess, the relation of the abscess to peritonsillitis, its prognostic significance, and its clinical recognition. He spoke of the histological changes of this form of tonsillar inflammation, remarking that streptococci were more numerous than staphylococci. Two of the intratonsillar abscesses

had been followed by peritonsillar inflammation. All were characterized by severe infection, as was evidenced by the clinical history, the severe type of fever, and the adenitis. In most of the cases, the clinical course of the disease afforded no suggestion of this special lesion. The superficial foci varied in size and number. The fibrinous exudation was more marked than in simple proliferative tonsillitis. Many polynuclear neutrophiles (pus cells) were found in the lymph channels near the base of the tonsils. The pyogenic infection of the follicles seemed secondary to that of the crypts; in the two peritonsillar cases it was evident that a discharge of the abscess into the efferent lymph channels had taken place. The importance of this special lesion was obvious, when it was borne in mind that acute pyogenic infection of the follicles might lead to pyæmia. Its presence might be suggested by whitish subepithelial spots, and by the bursting of the abscess contents through the overlying tonsillar tissue to the surface that condition might be produced which E. J. Moure and other French observers have named "acute ulcerative tonsillitis."

Peritonsillar Abscess. This paper was read by Dr. G. A. LELAND, of Boston.

He believed that a thorough discission of the tonsil was the best method to be followed in these cases. A long incision should be made through the tonsil from top to bottom, and then the sterilized finger was passed in, and all pus pockets were broken down. Circumtonsillar infection was an extension of the process from the lacunæ in the direction of least resistance. Cold, rheumatism, etc., did not signify as exciting causes anything but temporary lowering of vitality and of resistance power. The digital method was not dangerous. There was no dangerous hæmorrhage. It was very painful, but a few whiffs of an anæsthetic might be given. Its advantages were that the abscess was drained from below; there were no relapses, and the patient was able to swallow liquids in six hours and solids in twelve. If the vertical incision was slow in healing, daily applications might be made of tincture of iodine in glycerine. This operation was merely the rejuvenating of a procedure which was followed fifty years ago.

AMERICAN OTOLOGICAL SOCIETY.

FROM VOL. VII., PART I., OF "TRANSACTIONS."

(Concluded from p. 362.)

Dr. C. H. BURNETT. *Does Tympanotomy and Removal of the Incus arrest Progressive Hardness of Hearing?* (Read by title.)

One of the earliest events in chronic progressive deafness is gradual retraction of the tympanic membrane and ossicular chain, with consequent compression of the labyrinthine fluid. Organic changes are believed to occur in the labyrinth *pari passu* with physical changes in the conductors, and the deafness being due to the effects of stapedia fixation upon the labyrinth, all operations for its relief must necessarily aim at liberation of the stapes. The aurist can deal only with the tympanic conditions, and the arrest of their progress while the disease is limited to the middle ear is his hardest task. Owing to the failure of total excision of the membrane with malleus and incus to check the progressive deafness on account of the consequent inflammatory reaction, Dr. Burnett about eight years ago substituted tympanotomy with removal of the incus *only*. This operation, though far more difficult, is, according to his experience, unattended with reaction, improves the hearing to some extent in a few cases, has not made it worse in any, and relieves the tinnitus and vertigo when dependent upon catarrhal retraction of the membrane and impaction of the stapes. Dr. Burnett has performed it in sixty-one cases, and the results indicate that a deterrent effect has been exercised upon the progress of the deafness in the operated ear, and apparently also by synergy upon the opposite one. This fact is specially exemplified in a case he operated upon six years ago. The patient, a male, aged twenty-two, had been dull of hearing in the right ear since childhood, but lately complained of deafness in the left one, which had now become the worse of the two. The right membrane was thin, the red mucous lining of the drum cavity being visible through it; H.D. for isolated words 2 to 3 feet; no tinnitus. Left membrane thin and retracted; H.D. 12 inches for isolated words; constant tinnitus. Treatment of the naso-pharynx improved the hearing of the right ear, but left the opposite one as before. On December 12, 1892, under ether, an incision was made around the postero-superior quadrant, the stapedius tendon was cut, the incus removed, and also the head and crura of the stapes; the foot-plate

remained firmly attached; no bleeding nor reaction. The tinnitus was less the next day, and the hearing for low-toned words was 6 feet. The perforation persisted nearly a year; after two years there was no tinnitus. hearing for isolated words was from 3 to 4 feet, instead of 1 foot as before operation, and these good effects continue; the hearing on the right side remains as before. The satisfactory results in this case are attributed to the operation having taken place whilst there was still some hearing to save; and it is asked why this principle should not be applied in cases of undoubted progressive deafness at much earlier stages—*e.g.*, when the hearing stands at 3 or even 10 feet. If it should be found that the hearing remains only at 5 feet after the operation, this is preferable to not operating at all, and allowing the hearing to steadily decrease to *nil*, as it almost always does in time under any of the usual routine methods. If any good is to be accomplished by operation, it should be done whilst there is hearing left, since when once it is lost the function cannot be restored.

Dr. SAMUEL THEOBALD. *Remarks upon the Treatment of Otomycosis by the Insufflation of Boric Acid and Oxide of Zinc.*

The author had recommended a powder consisting of equal parts of boric acid and oxide of zinc in the treatment of *aspergillus nigricans* so long as seventeen years ago, and was surprised that aurists still continued employing alcohol alone or in various combinations. In a recent typical case of this affection, in which diffuse inflammation of the deeper portions of the meatus and membrane had been set up, he had only once to repeat the applications, and the cure was complete. He removed the *aspergillus* with syringe, probe, and forceps, then dried the ear, and blew in the boracic and zinc powder lightly. Dr. Theobald had never known the remedy to fail.

Dr. ROBERT LEWIS. *Two Cases of Mastoiditis with Complications. I. A Case of Cholesteatoma, complicating a Bezold's Mastoiditis, operated upon by the Schwartze-Stacke Method.*

The patient was a female, aged twenty-five, who had had chronic purulent discharge off and on, with occasional pain in one ear, since she was three years old. At the age of seven she had swallowed a pin, and seven years later an abscess formed about an inch below the tip of the mastoid; this ruptured, discharged pus in which a rusty pin was found, and healed. More recently, severe

pain was felt in and around the ear, and a second abscess formed at the old site and broke. When seen by Dr. Buck in February, 1898, pus was exuding from a small pouting ulcer in the above situation, and the mastoid was tender. The probe could be passed upwards towards the tip and for 2 inches into the mastoid; this process could also be reached by the probe through an ulcer on the posterior wall of the stenosed and inflamed meatus.

Operation, March 4, 1898. The cortex was thin, and beneath it was a large cholesteatoma, occupying the whole mastoid, which was converted by it into a single cavity, and communicated by an opening through the entire digastric groove with the ulcer in the neck; this passage was thoroughly opened up and scraped. There was an eroded spot 2 millimetres by 3 in the floor of the middle cerebral fossa, and another in the wall of the sigmoid fossa; the ossicles and membrane were destroyed. The entire postero-superior wall of the external auditory meatus had to be taken away, but the operation was interrupted at this stage by threatened heart-failure. When continued on March 14, the whole surface of the mastoid cavity was curetted, and all granulations were removed. The membranous meatus was divided into an anterior and posterior flap, and the latter was turned at right angles, and joined to the posterior flap of the mastoid wound, the edges of which were next united. During the curetting the facial nerve was wounded, and paralysis followed. The patient's health improved rapidly after the last operation, and the facial paralysis was clearing up at the time of writing.

II. A Case of Tuberculous Extradural Abscess.

The patient, an anæmic and sickly female, aged twenty-four, was sent to Dr. Lewis in December, 1896. She had had almost constant discharge from the left ear since an attack of measles at the age of four years; latterly it had become very offensive and profuse, and three weeks ago dull aching pain set in over the temporal region, followed in another week by paralysis of the facial nerve. Examination disclosed a meatus filled with offensive cheesy matter, and a polypus occupying its inner third. The membrane and ossicles were totally destroyed, and dead bone was felt in the attic and antrum.

Operation, January 4, 1897. The mastoid was opened, and masses of material similar to that found in the meatus, and extending to the antrum and attic, were cleared away. All suspicious bone, including the tip of the mastoid and posterior wall

of the meatus, was removed. The probe could be passed through an opening in the tympanic roof for a distance of over an inch into the middle cerebral fossa. On this account a button of bone was trephined at a point about 1 inch above the middle of the external meatus, and the opening in the skull extended downwards and backwards as far as the opening made in the cortex of the mastoid. The tympanic roof was cut through at the same time, giving free access to the upper surface of the petrous portion, and on lifting up the dura a cheesy abscess like that in the mastoid was found; subsequent investigation showed that it contained numerous tubercle bacilli. The abscess wall was scraped and the wound packed, as no further sinuses were discovered. Next day the patient was comfortable and free from pain, but drowsiness set in forty-eight hours later and rapidly increased; it was therefore decided to search for a brain abscess. On January 7, under ether, and just as a further exploration of the wound was about to be made, the patient stopped breathing, and artificial respiration and other means were applied. Only temporary improvement in the breathing was obtained, and the heart's action grew extremely feeble. An attempt was made to reach the source of pressure by incising the dura, and introducing an aspirating needle in various directions into the brain tissue, which seemed to be softened, but it failed to discover any pus; some fluid, evidently from the lateral ventricles, was removed. Exploration of the cerebellum was deemed inadvisable. The patient was kept alive nearly five hours by artificial respiration, but ultimately sank. No autopsy was allowed. Dr. Lewis was in doubt as to whether death might have been due directly to the ether narcosis.

Dr. GRUENING asked how the aspirating needle was to be introduced, and how far, if one were searching for pus? A distance of $2\frac{1}{2}$ inches would certainly strike the lateral ventricle and remove watery fluid, and if there were pus in the vicinity, it might be carried into the ventricle and kill the patient by infection, hence the necessity for great caution, and a limitation to $1\frac{1}{2}$ inches for its introduction.

Dr. ADAMS asked if any members had had bad results from puncturing with a sterilized needle. He had introduced it freely in a patient without finding pus, and the case got well.

Dr. GRUENING had seen no harm done, but it might happen, hence the lateral ventricle should be carefully avoided.

Dr. LEWIS replied that he had not entered the ventricle the first time, nor until he had assured himself there was no abscess on the

surface. He inquired if the members used ether or chloroform in operating for brain abscess.

Dr. THEOBALD stated that at the Johns Hopkins Hospital ether was used exclusively.

Dr. BACON always used ether, as he considered it safer.

Exhibition of Instruments.

Dr. LEWIS exhibited three pairs of forceps in which he had modified the jaws respectively in three different ways for aural work—an upturned, a downturned, and a pair the jaws of which opened at an angle of 45° to the shanks.

PEGLER.

Abstracts.

MOUTH, Etc.

Baer, Arthur (Vienna).—*On the Recognition of Tuberculosis of the Pharynx.* "Monatschrift für Ohrenheilkunde," February, 1899.

Two well-marked cases under the care of Professor von Schroetter are described. The chief complaint was the pain in swallowing, and the diagnosis was made on the typical appearance of the shallow, map-like ulcers, confirmed by the discovery of bacilli in the scraping, though none were found in the sputum. The larynx was in each case unaffected, and in one the lungs to a very slight extent only, but in the other one more extensively. Healing took place under curettement and the application of lactic acid in increasing strength.

Dundas Grant.

McIntosh, J. W. *Persistent Thyro-glossal Duct.* "Can. Prac.," June, 1899.

A woman, aged twenty-one, suffering from an enlarged thyroid gland, had for some months complained of an offensive discharge into her throat. At times the discharge was quite profuse. On these occasions she noticed diminution in the size of the goitre. There was no history of abscess; neither was there vomiting, nor coughing, nor accompanying catarrh. Firm compression on the gland produced throat-discharge with diminution of the size of the middle lobe. Inunctions of lanolin and iodoform for the time being put an end to the discharge.

Price-Brown.

Petersen.—*Demonstration of a Patient with Lichen Ruberplanus on the Mucous Membrane of the Mouth and Palate.* "Petersb. Med. Woch.," No. 4, 1899.

The author first put the diagnosis for syphilis. Later on, through

eruption of lichen ruberplanus on one hand and on the eyelids, it was possible to diagnose the case. The disease is very rare.

R. Sachs.

V. Rosen, H.—*Uncommon Case of Dangerous Bleeding in consequence of Swallowing a Leech.* "Petersb. Med. Woch.," No. 10, 1899.

Boy, nine years old, was drinking some water out of a stone jug in the dark, and swallowed a leech. Continuous bleeding from the nose and throat set in. It was impossible to catch hold of the leech by forceps or any other instrument. After an hour's gargle with permanganate of potash the leech was ejected apparently dead.

R. Sachs.

NOSE.

Birkett, H. S.—*Foreign Body in Naso-pharynx for Eighteen Years.* "Mont. Med. Journ.," June, 1899.

The patient, a young woman, aged twenty-three, remembered putting a thimble in her mouth when five years old. This was followed by an attack of coughing, when the thimble disappeared. A year later she developed catarrh of the nose, which continued ever afterwards. On examination both nostrils were filled with mucopurulent discharge, and the odour was characteristic of the presence of a foreign body. Post-nasal examination revealed a black mass lying close to the septum, and covered with catarrhal deposit. Under an anæsthetic it was removed, and proved to be a tailor's thimble, encrusted with concretions. The surface of the thimble itself was perfectly smooth. Under ordinary treatment all the catarrhal and ear symptoms entirely disappeared.

Price-Brown.

Hajek.—*Cephalalgia in Diseases of the Nose and its Accessory Cavities.* "Wien. Klin. Rundsch." (1899, 22, "Wien. Med. Club.").

Empyema of the accessory cavities of the nose causes cephalalgia in the acute and chronic stages; in acute empyema the cephalalgia is more neuralgiform, in chronic it is more like diffuse headache. Empyema of the frontal sinus causes more constant cephalalgia; next that of the antrum Highmori. Another peculiarity of the neuralgic pains is that they always come at the same time every day. When these intermittent pains are caused by neuralgia of the supraorbitals there is, according to the experience of the author, always disease of the frontal sinus. Then Hajek is very sceptical about the cause of cephalalgia through hypertrophy of the nasal mucous membrane; only the hypertrophy of the mucous membrane of the tuberculum septi seems to be an exception.

R. Sachs.

Keller (Cologne).—*The Connection between Disease of the Lachrymal Duct and Rhinology.* West German Laryngological and Otolological Association, April 16, 1899.

The speaker described first the anatomical, physiological, and pathological conditions, and alluded specially to the mucous valve at the lower end of the lachrymal duct (so called by Husner). Inspiration opens this duct for the evacuation of lachrymation. In the majority of cases, according to Keller, the origin of the lachrymal duct disease is at the nasal opening.

The orbital portion is only affected after the existence of the disease for some time. Nasal disease coexists in from 95 to 97 per cent. of the cases. The speaker gave a better prognosis of this disease with nasal treatment, which consists of injections into the duct and removal of abnormal conditions which may be present in the nose. The former method was attempted in the last century by Laforest with a special catheter, but was given up on account of the difficulty in introducing it.

The treatment of certain nasal conditions relieves at once if the disease of the lachrymal duct is not severe. But if strictures, etc., are present nasal treatment is not sufficient. The most important task of rhinology consists, according to Keller, in a thorough prophylaxis, especially removal of any abnormal state of the inferior turbinate.

In the discussion Lieven (Aix-la-Chapelle) recommended a method recommended by Killian (Freiburg) for advanced cases. A probe is introduced into the duct, and the bone and the anterior end of the inferior turbinate are removed, the nasal part of the duct being opened by bone forceps.

Lieven (Guild).

Keyser, R. (Breslau).—*Congenital Choanal Atresia*. "Wien. Klin. Rundsch.," No. 11, 1899.

Patient twenty-four years old. Complete atresia of the right choana. Patient refused operation.

R. Sachs.

Rischaevy.—*On the Theory of the Relationship of Chronic Diseases of the Naso-laryngeal Canal and Diseases of the Nose*. "Wien. Klin. Rundsch.," No. 9, 1899.

The author found in some of these cases that not only the inferior turbinated bone, but also the middle one, was very swollen. He thinks that also through stenosis of the middle nasal meatus compression of the naso-laryngeal canal may be caused. In these cases he recommends removal of the middle turbinated bone.

R. Sachs.

LARYNX.

Birkett, H. S., and Nicholls, A. G.—*Carcinoma of Larynx*. "Mont. Med. Journ.," May, 1899.

Six months previously a man, aged fifty-five, complaining of hoarseness, applied for examination. The laryngoscope revealed an ulcer, 6 millimetres by 3 millimetres, situated on the under surface of left vocal cord, in the vicinity of the vocal process. The surface was uneven and clean. There was no swelling of the crico-arytenoid articulation and the movements of the cord were unimpaired. Glandular tubercular and syphilitic manifestations were all absent, as also was stridor. Iodide of potash treatment was tried for a number of weeks without avail.

The patient was not seen again by Birkett until he was summoned to relieve œdema of the glottis, which seriously threatened suffocation. Inspiratory stridor was marked by retraction of supra- and infra-clavicular spaces and abdominal wall. In performing tracheotomy to relieve the symptoms, unusual difficulty was met with owing to the great depth of the trachea. It was found to be $3\frac{1}{2}$ inches from the surface. There was also enlargement of the middle lobe of the thyroid. On opening the trachea by lower operation, the œdema was found to

extend below the tracheal wound, requiring the use of a catheter to effect respiration until an unusually long tracheal tube could be secured. The patient only lived three days, dying apparently from collapse of the lungs.

Autopsy. The carcinoma was still confined to the left vocal cord, and had not apparently extended outside the laryngeal cavity. Inflammatory products had produced pressure upon both recurrent laryngeal nerves, inducing complete paralysis of vocal cords. Along left recurrent nerve was a small chain of enlarged glands.

Microscopically the growth proved to be a soft carcinoma of glandular type. In the liver four or five secondary nodules were found, while the heart showed moderate fatty degeneration. *Price-Brown.*

England, F. R.—*Edema (?) of the Glottis during Anæsthesia.* "Mont. Med. Journ.," May, 1899.

Male, aged twenty-one. A left upper molar had been extracted ten days previously by a dentist. On the following day a painful swelling was apparent beneath angle of jaw on same side. This continued to extend until examined by the doctor. Temperature was then 103°; pulse rapid and feeble; neck and jaw swollen; skin dusky red and brawny; tissues somewhat cedematous. The jaws could not be separated to any extent.

The case was one of severe cellulitis of the neck, with profound toxæmia. Deciding to locate and evacuate any collection of pus that might be present, an anæsthetic was carefully administered, avoiding complete narcosis. Before any operation could be performed, sudden cyanosis supervened, with discharge of fœtid pus from the mouth. Artificial respiration was tried without effect. Then tracheotomy was rapidly performed, followed by attempts at artificial respiration, but to no purpose. The profound toxic condition and lowered vitality seemed to offer the best explanation for the rapid and complete failure of respiration and circulation. *Price-Brown.*

Keimer (Düsseldorf).—*Carcinoma after Gumma of the Larynx.* "Monatschrift für Ohrenheilkunde," February, 1899.

A patient, the subject of old specific infection, with tertiary changes in the nose and naso-pharynx, became extremely hoarse. On laryngoscopic examination, there was seen a pale, smooth, reddish-yellow swelling of the right aryepiglottic fold, and the neighbouring portions of the epiglottis and vestibule, exactly like a gumma. Great improvement in the voice and diminution of swelling took place under iodide of potassium and rest, but the ulcer did not heal, and later breaking-down and fungation followed. Microscopical examination of a fragment revealed no malignant appearances. Hoarseness and difficulty in swallowing returned, but there was no pain (spontaneous?) nor fetor. The vocal cord, however, lost its mobility, and a further microscopical examination showed atypical epithelial development in the midst of round-celled infiltration in the depths of the tissue, as also epithelial nests. Operation was postponed by the patient, but ultimately complete laryngectomy was performed, and the patient died.

A second case was very similar, but operation was refused.

Both were excessive in alcohol and tobacco, as well as in the use of the voice.

The question arose as to whether this was the transformation of a non-malignant into a malignant growth, or the accidental superven-

tion of carcinoma in a syphilitic subject. (There seems little doubt that specific lesions may supply the local irritation which favours the occurrence of epithelioma.) *Dundas Grant.*

Kobler.—*Diagnostic Value of Affections of the Epiglottis in Typhoid Fever.* "Wien. Klin. Rundsch.," No. 17, 1899.

The author mentions three cases in which only through inspection of the larynx and the changed appearance of the epiglottis it was possible to make the diagnosis of typhoid fever. The typhoid infiltration of the epiglottis is known: epiglottis very swollen and thickened; on the edge of the epiglottis ulcerations. Also, for prognosis, inspection of the larynx may be a help; as long as the epiglottis is infiltrated, the fever is still at an early stage. Finally, it is very important not to confound the cicatrices of these ulcers with those of syphilis, etc.

R. Sachs.

Lunin.—*Epithelioma of the Larynx.* "Petersb. Med. Woch.," No. 17, 1899.

The most interesting part of the case was that the epithelioma was going out from a syphilitic cicatrix. Extirpation of the left side of the larynx; cure.

R. Sachs.

E A R.

Buys.—*Asepsis and Antisepsis of the Middle Ear.* "Journ. Med. de Brux.," Nos. 13, 14, 1899.

Phenol glycerine, 1 : 10, is considered a good antiseptic bath for the external ear, and much stress is laid on the benefit of using *sterilized* cotton-wool pulp. Paracentesis, drainage by means of gauze or wadding, inflation, and careful syringing are all mentioned. As regards our choice of an antiseptic, oxygenated water is said to be a "precious microbicide," and is looked on as a specific remedy in chronic otorrhœa.

B. J. Baron.

Green, J. Orme.—*Abscesses of the Cerebellum from Infection through the Labyrinth.* "American Journal of Medical Sciences," April, 1899.

ANALYSIS OF THE SYMPTOMS.

R. C. S.	A. C.	T. P.	T. B. H.
O. M. S. chr. r. 20 years.	O. M. S. chr. r. years.	O. M. S. chr. l. 1½ years.	O. M. S. chr. l. 25 years.
Sudden vertigo.	Sudden vertigo.	Sudden vertigo.	Sudden vertigo.
Pain in ear.	Pain in ear.	Pain in ear.	Pain in ear.
Headache, vertex, bilateral.	Headache, frontal, bilateral.	Headache, frontal, bilateral.	Headache, unilateral, left.
Divergent strabismus, both.	External strabismus, l.		Nystagmus on looking to r.
No optic neuritis.	No optic neuritis. Knee-jerks present.	Optic neuritis, most in l. Knee-jerks absent in r. Facial paralysis from ear.	No optic neuritis. Knee-jerks present.
No chills or fever.	Nausea. Chills and fever. Leucocytosis, 20,100.	No nausea. No chills or fever. Leucocytosis, 14,000.	Nausea. No chills or fever. No leucocytosis.
Delirium at end.	Delirium at end.	Delirium at end.	No delirium.
Sclerosis of the bone.	Sclerosis.	Sclerosis.	Sclerosis.
Caries into labyrinth.	Caries into labyrinth. Arachnitis of cerebrium and cerebellum.	Caries into labyrinth. Encephalitis of cerebellum.	Caries in labyrinth. No brain disease.
Abscess of cerebellum, 1½ in. × ¼ in.	Abscess of cerebellum.	Abscess of cerebellum, 1½ in. × ½ in. × ¼ in.	
Infection from meatus internus.	Infection from aq. vestibuli.	Infection from whole labyrinth.	

The above analysis of the symptoms in the four cases affords some interesting comparisons. In all a chronic tympanic suppuration was running its course, without other symptoms than otorrhœa, when there was a sudden attack of vertigo, followed soon by dull pain in the depth of the ear. In one (T. P.) this was noticed to be accompanied by a marked increase in the deafness. At this time the penetration and infection of the labyrinth undoubtedly occurred, the vertigo being due to irritation of the cristæ acusticæ of the ampullæ of the semicircular canals. In all four headache was a prominent symptom. In the three cerebellar abscesses it was bilateral; in two of these frontal, and in the other at the vertex. In none of them was there any complaint of the occipital region. In the fourth case, of simple caries without brain disease, the headache was unilateral on the side of the affected ear, as is not uncommon with tympanic suppurations alone. Paralysis of the abducens (sixth) occurred in two, in one bilateral, in one unilateral, on the opposite side from the ear disease; it was perhaps due to pressure on the base of the cerebellum, perhaps to a central lesion. The presence of optic neuritis with other symptoms is confirmatory of brain disease, but is of little value in defining or localizing the lesion.

Otitic abscesses of the cerebellum are due to extension of the inflammation either through the inner wall of the mastoid or through the labyrinthine passages. In the former the abscess is in the posterior portion of the cerebellum; in the latter in the anterior portion. The posterior abscesses can be reached by removing the inner wall of the mastoid, and then, by rongeurs or gouge and mallet, carrying the opening backward to any desired extent, thus exposing the cerebellum below and behind the lateral (sigmoid) sinus, thus giving most thorough and efficient drainage.

The anterior abscesses offer much greater difficulties. They lie so far forward that to reach them from an opening behind the sinus involves puncturing the brain for from an inch to an inch and a half, and drainage for this distance nearly on a level must be inefficient. To reach them from an opening in the occipital bone below the superior curved line requires a greater length of puncture and gives even less favourable conditions for drainage. From a point just in front of the sinus, however, the distance to the orifice of the aquæductus vestibuli is only about one-fourth of an inch, and to the meatus internus about three-fourths of an inch. The posterior surface of the petrous bone can be removed for some distance forward and inward from this point, however, thus reducing these distances one-half. B. J. Baron.

Grunert. — *Facial Paralysis due to Ear Conditions.* "Münchener Medicinische Wochenschrift." No. 20, 1899.

I. Those due to inflammatory affections.

Facial paralysis in simple acute middle-ear catarrh is caused by hyperæmia of the neurilemma or pressure of the exudation on the nerve stem in congenital deficiency of the Fallopian canal. In acute suppuration perineuritis, or invasion of pus between the nerve bundles, comes under consideration. In chronic cases complicated by caries, necrosis, or cholesteatoma, escape of pus into the Fallopian canal, compression of the nerve stem through abrasion of the Fallopian canal by cholesteatomata, sequestrum of its wall, suppuration of the nerve stem, pressure of a labyrinthine sequestrum, or limited granulation growths on the nerve, etc., may be the cause. Especially frequent as a cause

is tubercular suppuration. Usually the severity of the ear disease is indicated by facial paralysis.

II. Those due to tumours.

It is very frequent in carcinoma.

III. Those due to injuries.

In fracture of the cranium, blood effusion in the canal or complete laceration of the nerve stem may be caused. In this group must also be included paralysis due to operative procedures or unskilful attempts to remove foreign bodies. *Guild.*

Guye.—*Agoraphobia in Relation to Ear Disease.* "The Laryngoscope," April, 1899.

Benedikt attributed this symptom to insufficiency of some eye muscles. Legrand du Saulle considered it a form of neurasthenia. Lannois and Tournier believed that in their ten cases various forms of ear disease were the causes. Other references are made to the literature of the subject. The author gives the following case:

Lady, aged thirty-three, head-schoolmistress, complaining of deafness in right ear for six months, and occasional giddiness on rising in the morning, has suffered from agoraphobia for two years. She had marked swelling and narrowness of the right Eustachian tube, chronic nasal catarrh, mouth-breathing, etc. Under treatment the condition of the ear improved. Since then there were frequent relapses of agoraphobia, sometimes with marked Menière's symptoms. Under local treatment, and with salicylate of soda taken internally, Menière's symptoms generally subsided in a few weeks; but the agoraphobia continues, and the patient is never able to go out alone in town. For a few days, however, in holiday-time, in the country, she is free from her complaint, and can go out alone. The frequent movements of the head, necessary in walking a busy street, may produce slight rotatory sensations, and so may influence the feeling of anxiety. Once, after a few glasses of wine, the patient for the moment felt almost free from her complaint.

The author treated successfully a gentleman for acute middle-ear disease, without causing improvement in his agoraphobia, from which he had suffered for a year previously. *R. M. Fenn.*

Jones, Hugh Edward (Hon. Assistant Surgeon, Liverpool Eye and Ear Infirmary, etc.)—*The Importance of the Early Detection and Treatment of Suppuration in the Tympanum and Mastoid in Acute Otitis Media.* "Liverpool Medico-Chirurgical Journal," January, 1899.)

The attention of surgeons has been till quite recently directed to the study of chronic otitic suppuration to the comparative neglect of the acute disease and its complications. The following propositions demonstrate that, in spite of the great advances made in the surgical treatment of chronic suppurative otitis and its complications, the success obtained is not such as to warrant any slackening in our efforts to prevent acute cases from becoming chronic.

(1) *Once the wall of a great sinus or the dura has been penetrated, there can be no certainty of a successful issue to operative treatment.* The notes of seven cases which died in spite of operation were read by Dr. Jones at the Edinburgh meeting of the British Medical Association in 1898, with the object of demonstrating the truth of this statement. It is, of course, difficult to establish, but taking his own results

as average ones, and bearing in mind that MacEwen's record in dealing surgically with the common but exceedingly fatal complication of suppurative meningitis is almost unique, it may be safely assumed that the mortality in complicated middle-ear disease is still high. Even when recovery does occur, the ultimate results are not always satisfactory, as the following cases from the author's practice show. A boy operated on for temporo-sphenoidal abscess became in two or three years the subject of uncontrollable fits of temper, and also of dishonest acts, which were not explainable on the ground of natural depravity. A child who had sloughing of a portion of the dura and sub-dural abscess had occasional convulsions and attacks of vomiting for some time after apparent recovery. A little girl, after recovery from nasal meningitis, was blind of one eye and had a very small field of vision with the other. These and other cases show that the earlier the operation after the outset of the infection from the tympanum, the more successful will it be.

(2) *While operations for the relief of extra-dural complications of suppurative otitis, e.g., extra-dural abscess, commencing phlebitis, mastoid abscess, cervical abscess, etc., have been invariably successful, as far as the complication itself is concerned, these operations and the radical operations for simple chronic suppurative otitis have not always resulted in cessation of the discharge, nor in restoration of the hearing power. Either a slight discharge continues, or the cases relapse, or the hearing power gradually diminishes after having improved very much for a time. Stacke reports 6 per cent. of continued discharge and 20 per cent. of relapses.*

(3) *With the exception of tubercular cases (and even this is a doubtful exception), all cases of chronic suppurative otitis have once been cases of acute or subacute otitis media, and many of them non-suppurative otitis; moreover, the majority of these cases, by appropriate treatment during the acute stage, might have been prevented from becoming chronic. According to Walker Downie, the largest number (147) of cases of suppurative otitis media occurring amongst 404 children suffering from ear-disease had originated with acute catarrh, whilst 137 resulted from measles, and 63 from scarlatina. Although adenoid growths are frequently the seat of tubercle, and the latter plays an important part in the carious processes, even here early and vigorous treatment may do much to eradicate the mischief. Though more difficult in the case of children than in adults, the progress from acute otitis to chronic suppurative otitis can generally be followed.*

(4) *Another and stronger reason for directing attention to the acute stage depends upon the fact that grave intra-cranial complications often arise during the acute stage of suppurative otitis. They may follow extremely quickly upon the acute otitis. Three of Jones's cases reported last year were consequent upon acute suppuration. R. W. Murray, MacEwen, and Wissing have all reported cases of brain abscess with imperforate membrane; whilst a number of authors have described severe complications arising within a short period of the onset of acute otitis; still, it is true that cerebral abscesses comparatively rarely make their presence known during the acute or subacute stages of suppurative otitis. Grunert estimates the proportion of acute to chronic brain abscesses as 9 to 91, and Jansen at 1 acute to 6 chronic, a much higher ratio; but the old thick-walled brain abscesses so often met with may reasonably be supposed to have originated during the acute stage of the case. Certain observations upon the*

bacteriology of otitis lead up to the inference that the foundations of complications are laid during the acute stage, or during the acute suppuration resulting from reinfection. Thus, to quote an example, the pneumococcus is most frequently found in acute otitis (from causes other than scarlatina and influenza), and while often most destructive to bone, may lie dormant for varying periods in its recesses.

(5) *The stages of acute otitis media; the point at which it becomes suppurative; the conditions which lead to involvement of the antrum and mastoid cells, and which convert an acute case into a chronic one.*

(a) Even in the first, serous, pre-perforation stage, it is probable that the attic and mastoid antrum to some extent participate, for, according to Broca and Lubet-Barbon, there is always a certain amount of tenderness on pressure over this region. The local treatment consists in leeching, applying the cold Leiter's coil, and the rendering of the meatus aseptic, by the use, *e.g.*, of glyc. acid. carbol. with sod. bicarb., followed by a plug of antiseptic gauze. Paracentesis is best delayed so long as there are no indications of pus within the tympanum, as the multiplication of organisms hitherto retarded goes on at an enormous rate as soon as rupture takes place. These new cocci probably come from the naso-pharynx, accounting also for suppuration within the tympanum and mastoid when occurring without perforation of the membrane. (b) If pus has once formed, however, it must be let out, if the membrane has not already ruptured. (c) The accessory cavities of the tympanum generally share in the inflammatory process, and the antrum and adjoining cells contribute the greater part of the discharge, but here, as in the tympanum, resolution often takes place. If the attic or antrum get cut off from communication with the tympanum, or the contributory cells from the antrum, so that the inflammatory products do not escape, acute constitutional disturbance will follow, and if an operation is not soon undertaken the bony walls of these cavities will be destroyed in one or more situations. According to Grunert, extra-dural abscess is much more likely to occur in the acute than in the chronic stage, owing to the presence of pneumococci, and Bezold's mastoiditis is equally prone to occur there. In all these instances immediate operation is demanded. (d) There is a class of case about which there may be some difference of opinion—those, namely, in which after ten to fourteen days the acute symptoms have subsided, but the discharge continues and the patient is very deaf. There is no particular pain; the temperature is about normal; there is no obvious swelling of the mastoid; the meatus is swollen, occluding the view of the membrane, but there appears to be a free exit for discharge, and the patient feels comparatively well. It is here that a thorough examination is of vital importance. The surgeon must stand behind and in front as well as at the side of the patient, and compare the ear and mastoid of the affected side with the healthy one in every particular. Pus will be found on exploration of the mastoid cells in four cases out of five: (1) If there is tenderness on tapping the base or apex of the mastoid; (2) If the apex feels to be slightly prolonged on the affected side; (3) If there is a slight cushiony feeling on one side as compared with the other; (4) If there is increased heat on one side; (5) If on rubbing the skin briskly on both sides one assumes a dusky red; (6) If there is pain or stiffness on moving the head from side to side, with rigidity of the sterno-mastoid. In making the diagnosis, certain errors must be guarded against; *e.g.*, œdema is sometimes met with over the mastoid in otitis externa, and acute

tenderness over the mastoid may occur in hysterical subjects of chronic middle ear catarrh. The operation required is simple opening of the cells down to the extreme tip, and in some cases the mastoid antrum. Politzer's views on this point are well known, but are incompatible with the fact that the discharge often ceases from the tympanum the day the mastoid opening is made, and hardly ever returns. There is often a distinct separation between the antrum and the cortical abscess, but owing to the occurrence of the discharge ceasing, Jones assumes that there has been a tortuous channel connecting the cavities, which acted as a safety-valve to the cortical abscess. Anyhow, it is advisable to keep the wound open by packing with iodoform gauze until the septic processes have ceased. The results of this operation are always good, and hearing is almost entirely restored. (e) In those cases in which a chronic discharge is just being established, but owing to the absence of air-cells in the mastoid, no evidence of mastoid empyema can be obtained. Jones thinks that there can be no harm in opening the antrum in every case in which, the acute stage having passed over (say in three weeks), the discharge continues. In the absence of an exploration, the case must be kept under observation for a long time.

(6) *The importance of post-nasal vegetations and of permanent perforations of the membrana tympani, in causing relapses or continuous suppuration is not to be overlooked.* Lake has shown diagrammatically the mechanical effect of adenoids in causing pus to lodge in the lower part of the tympanic cavity even when a perforation of the membrane is present; and furthermore, these growths harbour all sorts of organisms; the indications for the thorough removal of all trace of adenoids in every case of otitis media is therefore clear. The entrance of fresh infection through a permanent perforation of the membrana tympani has been successfully combated by causing the hole to cicatrize by the aid of trichloracetic acid. A 10 to 50 per cent. solution is applied with a wool-covered probe to the edges of the perforation. About ten applications, at intervals of four to eight days, are said to be required. Thus, the original disease having been eradicated, and the chance of reinfection minimized, the organ of hearing is in a fair way to being restored to all but its former usefulness.

Pegler.

Lamann, W. (St. Petersburg).—*On the Tampon Treatment of Furuncular External Otitis.* "Monatschrift für Ohrenheilkunde," February, 1899.

Cotton-wool is twisted carefully on a probe which may have a slight screw worked on it, but must not be knobbed. A tampon is made of uniform diameter, and of such a thickness as to fit tightly into the inflamed meatus, and long enough to reach the drum. The tip of the tampon must be cut straight across, so as not to taper. It is dipped in the following ointment: Oxide of zinc, 40 parts; carbolic acid, 6 parts; white vaseline, 300 parts; then warmed and dipped, and warmed three times, so that the wool may be thoroughly impregnated with the ointment. The tampon is then pushed into the meatus with a screwing movement, and, after removal of the probe, is left for twenty-four hours. Before the insertion, the ear may be syringed out with a weak solution of lysol or creolin. The plug is removed at the end of the twenty-four hours, and the patient can then renew it twice daily. The author finds this treatment give better results than any other, and

he attributes it to the pressure exercised. (Some credit may reasonably be given to the carbolic acid and the zinc in his excellently devised ointment.—D. G.)

Dundas Grant.

Lannois and Tournier.—*An Auricular Lesion is frequently the Determining Cause of Agoraphobia.* "Ann. des Mal. de l'Oreille," October, 1898.

The authors support this proposition by recording ten personal cases in all of which a well-marked agoraphobia was associated with an auricular lesion giving rise to vertigo. In four of the cases local treatment of the ear was followed by cure or marked relief of the symptom of agoraphobia, which seemed in these cases to be immediately dependent upon the presence or absence of vertigo.

Waggett.

Stevithal.—*Report of the Surgical Department of the "Evangelische Diakonissenanstalt in Stuttgart" for the years 1895-1897.* "Würtemb. Med. Corr. Bl.," No. 8, 1899, Beilage.

The report contains three cases of complications after suppurations of the middle ear: (1) Extradural abscess in the right occipital bone after otitis media. Operation; cure. (2) Man, thirty-five years old; caries of the processus mastoidis; meningitis; abscess in the right lung. Operation; death after six days. (3) Boy, six years old; otitis media purulenta foetida since one and a half years; caries of the processus mastoidis; permanent pains in the back of the head, vomiting, slow pulse. Diagnosis, *abscess in cerebello*; operation; abscess found; death after six days.

There is an interesting case of a *syphilitic ulcer in the larynx*. Signs of severe stenosis of the larynx, caused through a big ulcer on the left vocal chord. Edema under both vocal cords. First impression was that of a carcinoma; but as there was still an unusual part between the two swellings on the left and on the right side, and as two separated carcinoma are very rare, they took it for syphilis, kal. iodet. Tracheotomia supervened the next day. Under treatment of pot. iod. and calomel, cure after six weeks; only paralysis of the nervus recurrens was left.

R. Sachs.

Urbantschitsch.—*On the Value of Methodic Hearing Exercises for Deaf People.* "Wien. Klin. Rundsch.," Nos. 9, 10, 1899.

As is well known, the author many years since wrote very often about this subject. He thinks that a good many people who are hard of hearing, or even deaf and dumb, could be cured by methodic exercises. Details must be seen in Urbantschitsch's monograph, which appeared some time ago. Politzer and Gruber are not of the same opinion, as also may be known.

R. Sachs.

Von zur Mühlen, A.—*Case of Necrosis of the Labyrinth.* "Petersb. Med. Work.," No. 13, 1899.

Child, two and a half years old; chronic suppuration of the middle ear after scarlet fever. Radical operation; after half a year nearly the whole internal ear was eliminated.

R. Sachs.

Webster.—*Pneumatic Massage in the Treatment of Deafness and Tinnitus.*
"The Laryngoscope," April, 1899.

The writer gives a detailed report of six cases of deafness resulting from chronic suppuration of the middle ear. The middle ear was dry in each case, and the membranes presented every degree of perforation (including complete destruction). Only in one case was catheter treatment carried on at the same time. The massage was applied through a Siegle's speculum by an air-pump controlled by an electric motor. The results (worthy of careful perusal) are distinctly favourable as regards the increase of hearing-power and the removal or relief of tinnitus. The cases showing greatest gain in hearing were cases where suppuration had recently ceased. One case showing permanent relief of tinnitus was not recent.

Pneumatic massage in this class of case may be of considerable value as an addition to other modes of treatment. The electric motor is not essential, as there seems to be no advantage in rapidity; and there is some noise attending rapid vibrations.

R. M. Fenn.

White, F. Faulder.—*Exfoliation of the Cochlea.* "Lancet," December 17, 1898.

The patient was a woman, aged twenty-eight years. She had suffered from a discharge from the right ear from childhood. In September, 1897, she had a severe illness, her account of which is as follows: "It began with severe pain in the ear and right side of the head. I had constant vomiting for twenty-four hours. I became delirious, and did not know where I was for several days. The doctors applied ice to the head and poulticed the ear. I was in bed for six weeks." She gradually got better, but has been in poor health ever since. The discharge continued to be profuse and was very offensive. She says that her medical attendant told her that it would be very dangerous to check the discharge. She came under my care in October. The middle ear was full of an offensive discharge and she was quite deaf on the right side. She was ordered frequent syringing with a hot solution of silico-fluoride. The patient rapidly improved, but there were two or three polypi which required removal, and while extracting these the forceps brought away a small piece of bone which was loose in the middle ear. This proved to be the modiolus of the cochlea with part of the osseous spiral lamina. The patient made a rapid and perfect recovery. The ear is now dry and sweet, the inner wall presenting a regular surface, and there is nothing in its appearance to reveal the somewhat unusual deficiency.

Such a case as this shows what Nature can sometimes effect without operative interference, and every month furnishes fresh proof of the reparative powers of the tissues in the middle ear and the adjoining cavities. The vitality of the tissues is lowered by septic organisms, but even after half a lifetime of neglected otorrhœa the middle ear may be restored to health by proper treatment. Yet half the patients who come to the author have been under treatment elsewhere without relief or have been professionally advised that it was dangerous to meddle with the ear. Even in works on otology one fails to find any adequate protest against the everyday neglect of this disease. Some aural surgeons, indeed, write as if nothing could be more dangerous, but the hope held out is through operative interference. In uncomplicated cases this is, to say the least, unnecessary.

StClair Thomson.

A NEW OTOLOGICAL SOCIETY.

The assembly in Great Britain of so many of those interested in this branch of our speciality has led to one noteworthy effect: it has resulted in the inception of an Otological Society. The founders number fifty, and it has the advantage of the presence of Sir William Dalby as provisional chairman. It is yet early to speak with any certainty as to what arrangements will be made for its working, but we have every confidence in its eventual success, and heartily welcome its appearance. With one so respected and so widely known as chairman of committee, we draw a happy augury for the future.

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

By the time this number of our Journal is in the hands of our subscribers, the members of Congress will have already begun to congregate in London. The list of papers to be read has already been issued, and we will therefore content ourselves by merely remarking on the paucity of communications from this country; let us hope this is in part due to the fact of our having our time considerably occupied with the arrangements of the Congress. The Museum gives the most flattering promise of being more than a feature—it promises to be *the* feature, and to amply warrant the large sum asked by the Museum Committee. It should mark an epoch in the history of otological anatomy and pathology; and the catalogue form a reference work, stamped with the seal of authority, which for ages to come may be appealed to as a sure guide and index of the state of pathology in this department at the end of this, the nineteenth century.

It is of course highly desirable that there should be some such work to which one could refer in event of any pathological fact being rediscovered at any future time. And as we know full well, it is a matter of the greatest difficulty to find out, from among the masses of literature in various languages, whether or no any particular subject is really fresh.

We understand that the idea is to have the pathological department grouped under a scientific and rational basis. This, whilst involving much labour, will give a most admirable result.

Our readers will be glad to learn that the unique collections of many well-known men, as well as representative ones from Germany, Austria, Holland and other countries, are amongst the

exhibits; the Museum will contain at least 3,000 specimens. Also that the historical Toynbee Collection is to be lent in its entirety by the Royal College of Surgeons. English collections other than that just referred to will not be kept distinct, but classified as aforesaid. The catalogue will be presented to the members of the Congress, and will be obtainable by all others who wish to possess it at a moderate figure.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS, LONDON.

(AUGUST 8 TO 12.)

THE Reception Bureau at the Examination Hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment, near to Waterloo Bridge, will be open Monday, August 7, from 2 to 5 p.m., and daily during the Congress from 9.30 a.m. to 6 p.m. Members of the Congress are requested to enter their names and addresses at the Bureau, where they will also obtain invitation-cards and all information.

A list of hotels and boarding-houses appears in the official programme.

Programme :

MONDAY, AUGUST 7.

- 9 p.m.—Opening Reception by the President of the Organization Committee at the Examination Hall of the Royal Colleges of Physicians and Surgeons, Victoria Embankment.

TUESDAY, AUGUST 8.

- 10 a.m.—Opening Meeting in the Examination Hall, Victoria Embankment.

1. Address by the President of the Organization Committee.
2. Address by the President of the last Congress.
3. Election of Officers.

- 3-6 p.m.—Meeting for papers and discussions at the Examination Hall.

- 9-12 p.m.—Public reception of the Members of the Congress by the British Otologists at King's Hall, Holborn, W.C.

WEDNESDAY, AUGUST 9.

- 10-1.30.—Meeting for papers and discussions at the Examination Hall.

- 7.30 p.m.—Dinner given by the President to the foreign Otologists at the Hotel Cecil, Strand.

THURSDAY, AUGUST 10.

- 10-1.30.—Meeting for papers and discussions at the Examination Hall.

FRIDAY, AUGUST 11.

- 10-1.30.—Meeting for papers and discussions at the Examination Hall.

- 3-6 p.m.—Closing meeting of the Congress.

- 7.30 p.m.—Dinner given by the British Organization Committee to their foreign guests at the Whitehall Rooms, Hôtel Métropole.

SATURDAY, AUGUST 12.

Excursion to Windsor Castle, and to Luncheon at Bray by kind invitation of Mr. George P. Field.

Regulations.

1. The Official Languages are French, English, German, and Italian. If special request is made, one of the members present will be asked to give in abstract a translation of each communication.

2. No paper shall exceed fifteen minutes in reading, so that all long communications should be read in abstract. Any speech in the subsequent discussions shall not exceed five minutes.
3. The communications will be published in the Transactions, which will appear after the Congress, and be sent gratuitously to each member.
4. All papers read, and all communications made to the Congress, are to be *immediately* sent to the Editorial Committee.
5. All speakers taking part in the discussions are requested to send to the Editorial Committee *before the end of the Meeting* a written abstract of their remarks.
6. The Subscription entitling to Membership of Congress is fixed at £1.
7. The Officers reserve to themselves the right of fixing the order of communications each day.

REVIEWS.

Garel, J.—*Le Rhum des Foins*. Pp. 96. J. B. Baillièrè et Fils. Paris : 10, Rue Hautefeuille. 1 franc 50 cents.

An extremely clever and exhaustive little thesis on this subject. There are, we may be thankful to say, few subjects so ill understood as the pathology of this disease. By this we do not mean to trespass outside the confines of our legitimate preserves.

The want of agreement among the various exponents of the science and art of rhinology makes a work like this an object of interest. Garel has already made for himself a name that has long since extended beyond the land of his birth, and we are not disappointed in his present brochure. All that is known is set out fairly and without prejudice. The experience of the writer, based on a large mass of material, enables him to weigh with judicial impartiality both cause and effect. He concludes :

1. Hay-fever is another variety of rhino-bronchial spasm.
2. This spasm is of two varieties : (a) periodic ; (b) aperiodic.
3. Hay-fever depends on three principal factors : (a) A suitable "terrine," neuro-arthritis inducing a peculiar susceptibility of the nerve-centres. (b) A certain amount of hyper-excitability of the nasal mucosa. (c) An exciting cause.
4. Treatment is divided into preventive, curative and prophylactic.
5. Surgical treatment directed to the sensitive and pituitary zones giving the best results. Foremost among these surgical aids are the galvano-cautery and glacial acetic acid.

Jacobson, Dr. L. (privat docent der Ohrenheilkunde an der Universität, Berlin).—*Lehrbuch der Ohrenheilkunde, für Aerzte und Studierende*. ("Text-book of Otology for Practitioners and Students," by Dr. L. JACOBSON, Berlin.) Second revised edition, with 330 illustrations. Leipzig, 1898, Thieme, pp. 521.

We had occasion to comment most favourably on the first edition of this work, which appeared in 1893. We then wrote as follows : "Constant reference is made to other authorities, but by name only, so that no aid is afforded in finding the title or locality of the original work. With this addition, Dr. Jacobson's might be called a cyclopædia

of otology." In the new edition it is gratifying to observe that this defect has been made good, and that by an ingenious and simple method of indication the reader is referred to the exact page of whatever work is quoted from.

In other respects, also, the book has been revised and brought up to date. This is particularly true of the chapter on the lethal complications of suppurative inflammation of the middle ear, which includes, among other points, Jansen's remarkable observations as to the frequency of extradural abscess as a sequela of acute median otitis; Quinke's on serous meningitis; and the mass of recent knowledge concerning the infective processes in the sinuses and jugular vein. This includes a full consideration of the frequency of parietal thrombi as a cause of pyæmia, when no evidence of plugging of the venous channel is present. Many of the more recent of the minor methods of treatment receive attention, such as trichloroacetic acid for the closing of old-standing perforations (p. 226), Cohen-Kysper's pepsin treatment of chronic catarrh (p. 231), pneumo-massage (p. 252), and others. The chapter on diseases of the mastoid cells and the appropriate operations has been considerably enlarged.

On the whole, the work keeps up its character for exhaustiveness, and the second edition is still more valuable than the first, for the reasons above given.

Dundas Grant.

Lake, Richard, F.R.C.S. (compiled by).—*International Directory of Laryngologists and Otolologists*. Pp. 111. Rebman: London, 1899. Price 2s. 6d. and 3s. 6d.

This small but important work has been published under the auspices of the JOURNAL OF LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY, the proprietors feeling convinced that the information contained in it, and which was not to be found in any other publication, met a want which was certain to be felt by others as it was by them. They are keenly aware of the amount of labour the work has entailed on Mr. Lake, to whom they are profoundly indebted for the self-sacrificing energy he has exercised in compiling and editing it.

The work is in two parts, the first being an alphabetical list of all the names of special practitioners of laryngology, rhinology and otology obtainable up till within a short time of the date of publication, with the name of the town in which each resides. The second part is an alphabetical list of towns, and under each is given a list, also alphabetical, of the specialists living there, with the exact address.

It will be readily seen that the place of residence of any specialist can be easily found. Moreover, the answer can at once be given to the oft-occurring question, "Can you give me the names and addresses of any specialists residing in such and such a town?"

Every endeavour has been made to insure completeness and accuracy, but some errors must have crept in. We regret, for instance, to find that Dr. Marcel Lermoyez, of Paris, appears as residing at 20B Boulevard Haussmann, instead of 20 bis Rue la Boétie. The editor appeals cordially to those who may detect errors in their own descriptions, or in those of others, to notify the same to him, so that in the next edition the necessary corrections may be made.

We have personally found the present edition already of the greatest service, and feel sure that every specialist will wish to have it on his table.

Dundas Grant.

Thomson, StClair.—*The Cerebro-spinal Fluid, its Spontaneous Escape from the Nose, with Observations on its Composition and Function in the Human Subject.* 1899. Pp. 140. Price 5s. Cassell and Co., London, Paris, New York, and Melbourne.

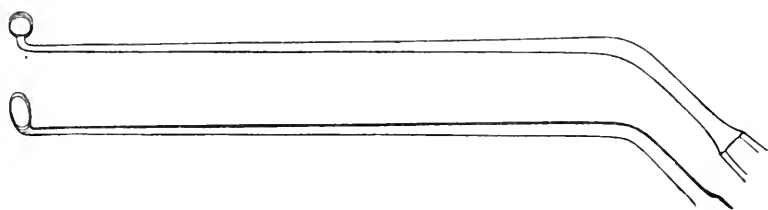
It is impossible in the space at our disposal to give more than a brief notice of this monograph. It is one which will commend itself to all rhinologists. Although the gist of the subject-matter has been before the profession, still it is admirably re-served, and the whole is the work of a careful and capable author. Part of the book consists of a résumé of cases which, after what must have been the most minute and painstaking research, must in the light of Thomson's work be classed with his case.

These cases, it must be added, were in the main considered from quite another point of view when originally published. The observations on the cerebro-spinal fluid made by the author, Professor Halliburton, and L. Hill are of extreme value and great interest. It will be outside our province to discuss the various experiments and analyses which are set forth, and we have not time for a critical review in its broadest sense. The book is one which will find a place on the shelves of all earnest workers in our own specialty, in those of the exponents of general medicine, and finally in those of all interested in physiology.

NEW INSTRUMENTS.

Lake's Attic Curettes.

The instruments shown in the accompanying cuts are designed for two objects: (1) the removal of the incus or its remains from the iter ad antrum; (2) removal of granulation tissue, etc., from the attic.



They are made at present in two sizes—one for adults and one for children and young adult females, who frequently seem to possess very shallow attics from within out. The circular one is the original form, but an oval shape seemed preferable in the smaller, so a larger was made to correspond.

They are made by Meyer and Co., 71, Great Portland Street, W.

THE JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

Original Articles are accepted by the Editors of this Journal on the condition that they have not previously been published elsewhere.

Twenty-five reprints are allowed each author. If more are required it is requested that this be stated when the article is first forwarded to this Journal. Such extra reprints will be charged to the author.

Editorial Communications are to be addressed to "Editors of JOURNAL OF LARYNGOLOGY, care of Rebman, Limited, 129, Shaftesbury Avenue, Cambridge Circus, London, W.C."

THE GROWTH OF OTOTOLOGICAL SCIENCE.

PRESIDENTIAL ADDRESS

Delivered at the Sixth International Otological Congress on August 8, 1899,

BY URBAN PRITCHARD,

M.D. Edin., F.R.C.S. Eng., Professor of Aural Surgery in King's College, London.

IN the name of the British Organization Committee, and in the name, indeed, of all British Otologists, I wish to offer a very hearty welcome to our foreign colleagues and to their ladies.

We thank you most sincerely for coming here, in many cases hundreds—nay, even, I may say, thousands—of miles, in order to assist at this, the Sixth International Otological Congress, and I trust that your visit to London will be a very pleasant one; at any rate, I may certainly promise that we will do all in our power to make it so.

There is, however, one serious difficulty which, with all the goodwill in the world, cannot be removed. I refer to the fact that, owing to the immense size of this London of ours, so much loss of time is entailed in getting from place to place. When I remember how conveniently we were located during the pleasant gatherings of Congress at Basle, at Brussels, and at Florence, and the ease with which we were enabled to find our way about, I cannot help regretting that our vast metropolis cannot be, for the moment, brought within more manageable compass: but, as that is impossible, we must content ourselves with doing the best we can under the circumstances.

In bidding you welcome I have used the word "foreign" to our guests; but I do not like that designation in connection with our Congress. For Science acknowledges no differences of nationality; she is herself all in all, and faithfulness to her the sole condition of citizenship in her kingdom.

Therefore let us regard ourselves, not as under our national flags, but as assembled in common brotherhood, marching together under the banner of Otology, and forming one part of that army, commanded by Science, which is engaged in overthrowing the foes of humanity, those foes which have Ignorance, Vice, and Prejudice for their leaders.

Personally, I feel a thrill of pleasure in seeing so many valued friends assembled again for conference, and of these may I be permitted to mention the names of Professor Politzer, Professor Guye, Professor Lucae, Dr. Arthur Hartmann, Professor Knapp, Dr. Mérière, and our last President, Professor Grazzi.

But it is a real grief to miss some old familiar faces. The genial President at Basle, Burkhardt-Merian, dear old Sapolini of Milan, Moos of Heidelberg, and Delstanche (père) of Brussels—these are honoured names which will long be remembered in the annals of Otology, though they themselves have passed "behind the veil."

Again, since our meeting in Florence, our branch of medical science has lost another faithful servant; I allude to Dr. Meyer of Copenhagen, whose name in connection with the discovery of post-nasal adenoids is so justly renowned. Lastly, among other names that must occur to each one of us, I will only refer to those of Professor Colladon of Geneva and Hewetson of Leeds, who were both to have taken an active part in our proceedings this week.

We deeply regret also to note the absence, from unavoidable circumstances, of several friends whom we should so gladly have welcomed among us to-day, and I am especially grieved that ill-health has prevented Dr. Charles Delstanche, our hospitable President at Brussels, from being at his accustomed place on this occasion. I believe that it is the first time that our Otological Congress has not had the support of his energetic and cheery presence.

Now, friends, it seems to me that at the opening of our Congress it is well that we should recall briefly the story of the birth and growth of Otological Science, and with your permission I will say a few words on this subject now, dwelling more particularly on the advances made in it during the last thirty years.

Although Toynbee is generally acknowledged to be the father of

modern Otology, for the date of its birth we must go back some 3,400 years to the then flourishing country of Egypt. For Professor Roosa, in his excellent treatise, refers to a certain ancient papyrus (called, after its discoverer, the Papyrus Ebers), on which is written a monograph on "Medicines for ears hard of hearing," and "for ears from which there is a putrid discharge." And here, in our Museum, may be seen a confirmation of the fact that ear troubles not only existed in those days, but that they could be cured; for we have the good fortune to possess a curious old Egyptian relic, consisting of a wooden tablet on which is portrayed in bas-relief two effigies of the Sacred Bull and two auricles; this was undoubtedly a votive offering to the god Hathor from some "grateful patient."

In spite of its early birth, however, Otology, except perhaps with regard to its anatomy and physiology, did not make itself of great importance until the second half of the present century. It is true that here and there a surgeon might have been found who had turned his attention to some extent to this subject: and, indeed, our own Royal Ear Hospital in Dean Street, Soho, which is acknowledged to have been the first successful aural clinique in Europe—and, I believe, in the world—was established in 1816. But, speaking generally, we may safely assert that aural surgery continued to be more or less in the stage of infancy until between 1840 and 1860, when the study was vigorously taken up by Sir William Wilde and Toynbee, who thus gave a fresh impetus to the study of the pathology and treatment of diseases of the ear. Even then its importance was by no means generally recognised; indeed, only thirty years ago it was a favourite saying of more than one celebrated surgeon that "Ear diseases may be divided into two classes: those which can be cured by any general practitioner, and those which, being incurable, may be relegated to the tender mercies of the ear specialist."

Is it any wonder, therefore, that in those days aural surgery was not only considered to be, but actually was, very much mixed up with the name of quackery; for, as scientific men refused to have anything to do with it, the door was left open for any charlatan to enter, and many strange stories gained credence as to methods of treatment which the patient was required to undergo. Indeed, one of my earliest boyish recollections of aural surgery was hearing the story of how a child, a deaf-mute, had been cured by a skewer having been passed through his head from one ear to the other. Although a somewhat better knowledge of anatomy has since made me doubt the accuracy of this statement, still it is certain that

strange things were both said and done in the olden times, which did not redound greatly to the honour of the specialist.

In my own student days I well remember the sarcastic manner of Professor Partridge—Dicky, as we used to call him at King's College—when he said, "Ah, gentlemen, a little wax is a godsend to an aurist," meaning, of course, that its removal was an easy method of earning a reputation. And no doubt there is a certain truth in these words, though not exactly in the sense implied by the good old Professor: for which of us has not found that, by removing a plug of cerumen which has either not been diagnosed or which has resisted all the efforts of the general practitioner to dislodge, we have gained *kudos* and an appreciation which many of our more delicate operations have failed to secure.

Yes, Otology had indeed a hard battle to fight before it could be said to have won honourable recognition among men of standing in the medical profession, and I shall never forget the letter which one of these wrote to me in 1872 when he first learnt that I intended to devote myself to this branch of study. After lamenting my decision, however, he did conclude by saying, "Now I suppose that I must not regard *all* aural surgeons as quacks." And may I add, as a kind of commentary on this letter, that within a few years afterwards the writer of it came to me as a patient.

Things have indeed changed since then, for, instead of a few aural surgeons scattered here and there in Great Britain, we have now at least a couple of hundred, while the number of clinics in London alone has been increased from two or three to near upon twenty. And in many other countries this branch of medical science is even more strongly represented.

As a natural result of the increased interest in the work, let me call attention to the unique Museum connected with this Congress, wherein is to be found the largest and most valuable collection of otological specimens—a collection which could only have been brought together by the union of our international forces. The Museum is so complete that if you had come to visit that alone your trouble would have been repaid.

But in one respect there is still room for improvement. I refer to the need for the better recognition of otology by our universities and colleges. I am glad, however, to be able to report that one step has lately been made in this direction, for the University of Edinburgh has now made it one of the qualifying subjects for her medical degrees, and I look forward, with hope, to the time when her example will have been generally followed.

This "new departure" will, I trust, lead to a fuller recognition

of the position of teachers of aural surgery. In this respect we, in the British Isles, are sadly behind other countries, where chairs of otology are numerous; whereas here, among all our universities and colleges, where so many able lecturers are to be found, in King's College, London, alone is the dignity of a professorship conferred upon its teacher of aural surgery.

Let me now pass in brief review the progress of the last thirty years.

So far as the *anatomy* and *physiology* of the auditory apparatus are concerned comparatively little has been added to the store of knowledge already gained, although a more intimate study of its parts has made that knowledge more complete and precise.

In *pathology*, as may be expected, there has been considerable advance.

In disease of the meatus, although aspergillus was discovered before this period by Meyer, Schwartz, and Wreden, yet it was not elaborated with any fulness until later. Also, the nature and classification of exostoses have been worked out within this period.

Our knowledge of the changes in chronic middle-ear catarrh, and in sclerosis, has considerably advanced, although much here yet remains to be done.

The effect of pathological conditions of the nose and nasopharynx upon the auditory apparatus, adenoid vegetations more especially, has practically been discovered. The world has yet to learn what it owes to Meyer.

In chronic suppurative catarrh, disease of the ossicles, the implication of the attic, the antrum and the mastoid cells have been worked out; also the intercranial complications which sometimes follow. The nature of the granulations and polypi are now better understood; and although Toynbee had already called our attention to cholesteatoma, its pathological importance in connection with mastoid disease was not fully realized until quite lately.

In the pathology of labyrinthine disease there has not, perhaps, been so much advance; but Ménière's disease is now better understood; and Politzer has made known to us a disease of the bony capsule. Finally, the pathology of congenital syphilis affecting the internal ear has been partially worked out.

Our *means of diagnosis* have been considerably improved.

The diagnosis between affections of the conducting apparatus and the auditory nerve, which formerly was often confused, is now much more easily made out; this is chiefly due to the study of the tuning fork.

Methods of illumination have very greatly improved, to the immense advantage of the surgeon.

Bacteriology, again, has done much, and in all probability will do even more in the future, to help us in our diagnosis. Unfortunately, the essential apparatus is enclosed in such dense bone that the Roentgen Rays have been of but little assistance.

In *treatment* there have been immense strides.

Even in chronic middle-ear catarrh and in sclerosis, those diseases which hitherto have baffled our most strenuous efforts, a distinct advance has been made indirectly, especially in prophylaxis, by treatment of the nose and naso-pharynx.

In suppurative disease there has been very great improvement in treatment. By means of boric acid, alcohol, and other suitable antiseptics, simple otorrhœa has become much more manageable; and a far larger proportion of such cases are now healed, even without operation.

In the case of its complications—caries, granulations, and polypi—the advance made is most striking, and, in consequence, the large protruding polypus is now rarely seen; and no aural surgeon at the present time would be able to show so large a collection of these as Dr. Warden, of Birmingham, was in the habit of displaying some twenty-five to thirty years ago.

Curetting of carious spots, and the removal of ossicles, so important in the treatment of many cases, has only recently been introduced.

This brings us to the wonderful stride made in the treatment of antrum and mastoid disease, for which we have chiefly to thank Professors Schwartze and Stacke, although many others have contributed to the advancement. How much agony has been relieved, how many lives have been saved, by these operations!

And, gentlemen, this advance of surgery has carried us still further; for, by the joining hands of general surgery and otology, intercranial suppuration has been robbed of many of its victims.

But how, and why, is this? How is it that, formerly, our surgeons were unable to cope with those intercranial conditions? How is it that, now, we are able to operate on the tympanum, attic and mastoid, practically with impunity?

Gentlemen, this is due to the adoption of antiseptic surgery. May I beg your indulgence for proudly claiming to be pupil, colleague, and brother professor of him whom I regard as the greatest man living to-day—Lord Lister. Were it not that you would exclaim at my inconsistency, I should be tempted to add “compatriot” also. But yes, gentlemen, I will add the word. Not,

however, in the sense in which I was just about to use it, that of English nationality ; but with reference to that ideal country to which I alluded at the beginning of my speech, and of which we otologists are all the naturalized subjects. Here, on the common ground of our chosen land, the land of science, we may all proudly claim Lord Lister as our compatriot, all rejoice to serve under such a leader in the battle against disease and death. The world does not as yet understand the full benefits which he has conferred upon mankind, but we, naturally, being his compatriots, have a better opportunity for doing so ; and I can only add my earnest conviction that it is by faithfully following the counsels of our superior officer that our advancing column can best secure future victories.

Such, ladies and gentlemen, is the brief, and therefore necessarily inadequate, record of the progress of otology which I desired to lay before you.

We have seen that this nineteenth century, which has brought to the world so many wonderful blessings in other directions, has not been unmindful of our branch of medical science. For, whereas at the commencement of the century the ear was regarded almost as a *terra incognita* scarcely worth consideration except as the seat of one affection only—that which was generally known as ‘a deafness’—now, at its close, this organ is fully-explored ground, and has been proved well worth the exploration. Otology has been raised from the rank of pseudo-quackery to an honourable position in scientific surgery, and its importance and bearing upon the body as a whole is now fully recognised.

But while we rejoice in the progress made in the past, we must remember that much still remains to be done. For instance, we have yet to clear away that opprobrium of aural surgery, namely, the chronic non-suppurative disease of the middle ear. Shall we, in the near future, be enabled to cope successfully with this hitherto invincible foe? Judging from the advance made in other directions I am bold enough, and sanguine enough, to think that we shall ; and assuredly when that help comes we shall all unite in blessing its victor.

Now, it is the province of our Otological Congresses to take this and similar problems into consideration. But the real value of these gatherings is not to be measured merely by papers and discussions. This is one of their uses, it is true, for interchange of ideas is always good ; still, the chief value of thus meeting together with others who are all interested in one common subject is the kindling of enthusiasm which is thus engendered, an enthusiasm

which should serve to stimulate older and younger members alike to renewed efforts in the paths both of research and of practical treatment; and therefore, in conclusion, I desire most heartily to wish that this, our sixth Congress, may be successful in all these directions.

NASAL AND AURAL DISEASE AS A CAUSE OF HEADACHE.*

By DUNDAS GRANT, M.A., M.D., F.R.C.S.

It is perhaps familiar to all how at the time when a city was threatened with siege, and a discussion was held as to the best means of protecting it, one of the councillors, who happened to be a tanner, expressed his opinion that there was "nothing like leather." In the case of a comprehensive symptom like headache, arising as it does from such numerous and diverse causes, every "specialty" affords its quota of causes and the corresponding means of cure. That the professors of each specialty should have their attention particularly riveted on the factors arising in their own department is inevitable, that they should over-estimate their importance is natural, and that they have done so is undeniable. The results of this over-enthusiasm have been to unearth causes for headache which had previously been scarcely suspected, and to initiate methods of treatment which have been successful in cases otherwise incurable. As is usual in such circumstances, the enthusiasm of the reporters of results has too often outstripped their discretion, generalizations have been formulated on the strength of too few observations, and some degree of misleading has unintentionally resulted. Unfortunately the too sanguine expectations aroused by the statements of certain specialists have led to disappointment and undue mistrust. This no doubt is as true of the rhinological specialty as of all others in relation to headache. He who omits to examine the teeth, the refraction of the eye, the fundus oculi, and the urine leaves many causes of obstinate headache undetected, and I would venture to add to this accepted list the examination of the nose. In making this claim, I urge the same discretion as in the case of the other specialties, and I should be sorry to see as many subjects of headache submitted to ablation of their middle turbinated bodies as are provided with spectacles. At the same time, the correction of errors of refraction has been a source of relief to untold numbers; but in

* Read at the annual meeting of the British Medical Association at Portsmouth, July, 1899, in the section of Pharmacology and Therapeutics.

not a few well-selected cases rhinological treatment has been no less operative of good. Far be it from me to suggest that cutting and burning operations in the nose, with all the possible, if unusual, risks of hæmorrhage or wound infection, should be undertaken as readily as the adaptation of suitable lenses.

As regards the form of nasal disease which may give rise to headache, the most common may be the first quoted, namely, *adenoid vegetations in the naso-pharynx*. It is a most usual experience after the removal of adenoids to observe the disappearance of headaches which were previously of frequent occurrence. *Hypertrophy of the middle turbinated body* is another frequent cause, and that it should be so is very readily understood when we consider the comparative narrowness of the space in which it lies and the rigidity of the walls which bound that space, all being richly supplied by branches of the great sensory fifth nerve.

Case of Intense Headache removed by Resection of the Bulk of the Middle Turbinated Bodies.

Mrs. M—— came under my care at the hospital more on account of obstruction and discomfort in the nose than of any definite headache, and the hypertrophy of her middle turbinated bodies was such that I felt called upon to remove them. It was only after this operation that her elation at the relief from headaches which she had previously experienced led me to realize how marked this symptom had previously been, and to associate hypertrophy of the middle turbinated bodies with headache.

Case of Headache relieved by Removal of the Anterior part of the Middle Turbinated Body.

Miss A. W——, aged twenty-seven, was referred to me by my colleague, Dr. Savill, on April 18 for examination on account of loss of voice and spasmodic cough. She also suffered from nervousness and almost continuous headache and indigestion. I found the aphonia soon disappeared. On July 13 I removed the anterior part of the right middle turbinated body, which was the seat of considerable hypertrophy, with several polypoid growths. Since then, although her nervousness persists, the headache, as such, has entirely disappeared.

Inflammatory affections of the accessory sinuses in their chronic forms are causes of headache which are not unfrequently overlooked. It is usual for chronic inflammation of a frontal sinus to cause headache localized in the frontal region, but headache in the same spot may arise from disease of any of the sinuses.

Case of Frontal Headache due to Empyema of the Antrum, and removed by Intranasal Puncture and Irrigation of that Cavity.

Miss S——, aged fifty-one, a housekeeper, was referred to me by Dr. De Watteville, on account of pain over the right side of the head, extending from the frontal to the occipital region, and accompanied by a continuous discharge from the nose for two or three months. The latter was not, however, very conspicuous, and Dr. De Watteville was led to suspect the nose as the seat of origin of the pain by the offensiveness of the patient's breath. The nasal discharge was worse in the erect posture, and ceased in the recumbent one. There was a polypoid enlargement of the right middle turbinated body, deviation of the septum, and pus, not merely in the middle meatus, but between the turbinated body and the septum. The description of the symptoms suggested the probability of there being suppuration in the right frontal sinus. On transillumination there was found distinct darkness below the right eye, and Lichtwitz's exploratory puncture of the antrum of Highmore evacuated a quantity of intensely fetid pus, with complete removal of the symptoms. On two or three successive occasions the irrigation was repeated, with the result of complete disappearance of the pus. Since then the patient has enjoyed almost continuous immunity from pain, and the discharge has totally disappeared, there being simply a slight drying of the mucous membrane.

Case of Frontal Headache due to Disease of the Sphenoidal Cell removed by the Unintentional Avulsion of the Front Wall of that Cavity.

Miss D——, aged twenty-nine, came under my care in 1888, complaining of severe frontal headache, most marked on the left side, the pain being continuous and of extreme severity. The left middle turbinated body was covered with polypoid outgrowths, which I repeatedly endeavoured to remove in their integrity, but without complete success, there always remaining a considerable amount of new growths which the snare failed to grasp. A slight degree of relief from the headache was, however, obtained. It was not until on a later occasion, when a large mass of polypoid outgrowth detached itself from the interior of the nose during syringing, and was found to be growing from a thin plate of bone which came away with it, that complete relief was obtained. There was then found a large opening leading into the sphenoidal sinus, and the plate of bone which had come away was obviously the anterior wall of the cavity. In this case the frontal headache depended on disease of the sphenoidal sinus. The more recent history of the case is of considerable interest, but does not bear upon the subject.

What should lead us to suspect that in any given case the headache is due to nasal disease? In general we should be alive to the recognition of such symptoms as indicate nasal disease. Nasal obstruction arising from adenoids, hypertrophy of the turbinated bodies, septal outgrowths and deviations, polypi and inflammatory polypoid excrescences, etc., *discharges*, whether mucous or purulent, *fœtor* hardly observed by the patient in atrophic rhinitis, observed chiefly by the patient in disease of the sinuses, etc., loss and disturbance of the *sense* of *smell* and taste, attacks of sneezing and epistaxis, are among the more usual. In the presence of all or any of these a further investigation of the nose is indicated, and rhinoscopy may reveal a local cause for the nasal symptoms and for the headache. If the application of cocaine (or an equivalent) may next afford marked relief, the impression that the local condition is the cause of the headache is then almost demonstratively confirmed. The less unpleasant modes of examination should then follow, and transillumination, if not always conclusive, often gives such well-marked positive or negative results as to help us to decide upon immediate explanation by means of intranasal cannulæ, or to the postponement of any other than palliative treatment. In the latter case a renewed search should be made for ocular, renal, or other than nasal causes. Witness the two following cases:

Case of Headache, apparently due to Nasal Disease, traced to the Area of Distribution of the Anterior Dental Nerve in the Nose, and thence to the Lateral Incisor Tooth, extraction of which was followed by relief.

Christina M——, aged twenty-six, was referred to me to see if I could find anything in the nose to account for the occipital headache. On examination, I could find no inflammatory or obstructive change in the nose, but there was abnormal tenderness on pressure on the anterior extremity of the left inferior turbinated body. This being the region supplied by a branch of the anterior dental nerve, I looked to the incisors and canine teeth. There was tenderness over the left lateral upper incisor, which produced pain in the nose and also on the side of the face, and when this was extracted the occipital pain disappeared, although there still remained some general ill-defined pain.

The following cases illustrate the views enunciated:

Case of Headache suspected to be due to Nasal Disease; Absence of such Cause on Examination. Relief on the Correction of Refraction.

Mrs. H. E—— brought her coachman's son, B. H——, for my advice in November, 1898, on account of headache, which was

presumed to be due to disease of the nose. Nothing was to be found in the nose to account for it, but I elicited that the pain was greatest after reading at school, and advised the lady to consult her oculist about it. This she accordingly did, and correction of the patient's astigmatism resulted upon the disappearance of the headache, and he is now able to attend school regularly.

Case of Headache due to Ethmoidal Suppuration.

Jessie H—, aged twenty-four, came to the writer in June, 1897, complaining of dry throat, and was obliged to give up her singing lessons on that account. She had been subject to headaches since the age of twelve, accompanied by a thick crusting discharge from both nostrils, especially the left. The headache was most marked over the left lachrymal bone. She had attended the Ophthalmic Hospital, but was not advised to wear spectacles. The headache became very much worse after the use of an alkaline douche for the nose, and continued so for six months, when I removed the anterior extremity of the left middle turbinal, and only slight relief followed. Some months later the same was done on the right side. Little or no change took place until shortly after Christmas, when I made an opening into the ethmoidal bulla on the left side, and although little or no discharge came away, very considerable relief to the headache followed. Now she is unconscious of it, except at intervals of not less than a month.

Case of Headache due to Empyema of the Frontal Sinus; relieved by Irrigation of the Cavity through the Natural Orifice.

An engineer, aged twenty-eight, came under my observation on June 28, 1897, on account of left frontal headache, accompanied by discharge from the left nostril. On transillumination there was found marked comparative obscurity on the left side, suggesting the presence of pus in the antrum of Highmore, but Lichtwitz's method of exploratory irrigation gave a negative result.

A diseased tooth was also removed without making any difference. The anterior part of the left middle turbinated body was removed according to Grünwald's method, and for a time the symptoms were somewhat alleviated. On October 14 Hartmann's tube was passed through the natural orifice, and when air was blown through it the patient was distinctly conscious of its reaching the frontal region. A very small quantity of the muco-pus presented itself round the tube, and a certain amount of relief was obtained, which was still more marked when a one per cent. solution of menthol in parolein was injected by means of a syringe. The headache soon diminished, and almost disappeared.

Case of Headache due to Frontal Sinusitis; relieved by Irrigation through the Natural Orifice.

Captain R—— referred to me by Dr. L. Brunton for investigation of the nose in a case of right frontal headache with discharge through the right nostril. The patient was greatly distressed by the interference with smell and taste which his malady produced. There was dulness on transillumination, and after the application of cocaine to the middle turbinated body I was able to introduce Hartmann's frontal sinus cannula through the infundibulum, thereby blowing out the contents of the sinus, and subsequently injecting mentholized parolein. Relief at once followed, and the patient on the second occasion stated that at dinner on the previous evening he had been able to taste and enjoy his food, just as in his normal condition.

Disease of the ear is not an unfrequent cause of headache, and naturally, in the acute cases, it is not easily overlooked, because the symptoms pointing to it are extremely obvious. On the other hand, in old-standing suppurations in the attic, or in cases of cholesteatoma in which there may be little or no discharge, the cause may readily escape observation. It is well known to aural surgeons that under the influence of moisture or of sepsis there is apt to result a swelling of the epithelial tissues or a recrudescence of the purulent exudation, both of these being accompanied by pain which, although starting in the ear, is diffused so generally over the head that it is described as "headache," and is frequently of an intermittent character.

Under the influence of appropriate treatment, such as the adoption of the dehydrating and antiseptic "alcohol" method, removal of the ossicles or the radical mastoid operation, it is a common experience for headaches which have been frequently a source of extreme distress to disappear entirely.

Headaches accompanying ear disease, occurring after operation in the mastoid, although generally due to these conditions, are sometimes merely coincident, and in a case under the writer's care very considerable anxiety was felt after the performance of the radical mastoid operation, because the intense headache of which the patient complained aroused the suspicion that the pain might be due to the awakening of a latent cerebral abscess or the incidence of meningitis. The normal state of the temperature, and the absence of further constitutional disturbances, seemed, however, to negative this alarming view, and when, on account of the evidence of the gouty dyscrasia, the patient was ordered a

mixture of salicylate of soda and bromide of potassium the headache entirely vanished, and the anxiety was removed.

I trust I have not laid myself open to the charge of over-estimating the importance and frequency of the special diseases I have referred to as causes of headache, while establishing the principle that they must not be overlooked if a maximum of success in treatment is to be attained.

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

SUMMARY OF PROCEEDINGS.

THE sixth Congress was opened in London on Tuesday morning, August the 8th, under the presidency of Professor URBAN PRITCHARD. The number of adherents to the Congress was upwards of 250, and the programme of proceedings announced nearly a hundred communications. For the present we must content ourselves with a brief summary of the proceedings in anticipation of the fuller reports which will appear in the pages of this Journal.

Opening Ceremony.—Tuesday, August 8.

The proceedings of the opening ceremony commenced with an address by Professor URBAN PRITCHARD on *The Growth of Otological Science*. He then proposed a vote of thanks to the Royal Colleges of Physicians and Surgeons for having placed at the disposal of the Congress their Examination Hall. This was acknowledged by Sir WILLIAM MACCORMAC.

After an address from Professor GRAZZI, President of the last Congress, which was held in Florence in 1895, the Secretary-General, Mr. CRESSWELL BABER, announced the names of delegates from foreign societies. The following were unanimously elected officers of the Congress: President, Professor Urban Pritchard; Secretary-General, Mr. Cresswell Baber; Secretaries, Dr. Thomas Barr of Glasgow, Dr. Benni of Warsaw, Dr. Bobone of San Remo, Dr. Arthur Hartmann of Berlin, and Dr. Lermoyez of Paris; Treasurer, Mr. Cumberbatch of London. These gentlemen were to form the Editorial Committee for the Transactions of the Congress.

Proceedings.—Tuesday, August 8.—Afternoon Sitting.

The PRESIDENT occupied the chair. The following papers were read: Dr. E. SCHMIEGELOW (Copenhagen) described *A New Method of Measuring Quantitative Hearing Power by means of Tuning-forks*,

so as to bring out the relation of the percentage of duration of hearing for each fork to the percentage of actual hearing power; and Professor G. GRADENIGO (Turin) *A Simple Scheme for the Uniform Notation of the Results of Investigation of Hearing Power.*

Dr. RICHARD KAYSER (Breslau) reported his *Experimental Investigations into the Hearing Phenomena in Fluid Media*, especially in relation to the transmission of sound through the fluids of the internal ear. Dr. Kayser demonstrated the apparatus employed.

Dr. O. BRIEGER (Breslau), on *Tuberculosis of the Middle Ear*, was followed by Dr. W. MILLIGAN (Manchester) with a paper on *Some Observations upon the Diagnosis and Treatment of Tuberculous Disease of the Middle Ear and Adjoining Mastoid Cells.*

Dr. ARTHUR HARTMANN (Berlin) stated his views on *Congenital and Acquired Anomalies of the External Ear*, with demonstration of specimens, and Dr. ROHRER (Zurich) described *The Appearance of Varices on the Ear-drums*, illustrations of which he exhibited in the Museum.

Dr. BOBONE (San Remo) dealt with *The Early Involution of Adenoid Growth on the Riviera*, and Dr. ALLEN T. HAIGHT (Chicago) with *Naso-pharyngeal Adenoids as a Causative Factor in Ear Diseases.*

Proceedings.—Wednesday, August 9.—Morning Sitting.

The President occupied the chair. A GENERAL DISCUSSION ON *The Indications for Opening the Mastoid in Chronic Suppurative Otitis Media* was opened by Professor POLITZER (Vienna). Professor WILLIAM MACEWEN (Glasgow), Dr. LUC (Paris), and Dr. KNAPP (New York) enunciating the views with which these gentlemen are severally identified.

Professor LUCÆ (Berlin) read a paper on *The Radical Operation on Chronic Middle Ear Suppuration*, inculcating a moderately conservative attitude. The discussion was then thrown open, and the following took part in it:

Professor GUYE (Amsterdam), Dr. MOURE (Bordeaux), Dr. MCBRIDE (Edinburgh), Dr. JANSSEN (Berlin), Professor GRADENIGO (Turin), Dr. NOYES (New York), Professor KÜMMEL (Breslau), Professor EEMAN (Ghent), Dr. BRIEGER (Breslau), Dr. BARR (Glasgow), Professor FARACI (Palermo), Dr. DE MENDOZA (Paris), Dr. MILLIGAN (Manchester), Mr. MARK HOVELL (London), Mr. HOLMES (Cincinnati), Dr. DENCH (New York), Mr. CRESSWELL BABER (Brighton), Dr. HOLINGER (Chicago), Mr. DE SANTI (London), Mr. FAULDER WHITE (Coventry), Dr. LEDERMAN (New York), and the PRESIDENT. Professor MACEWEN and Drs. KNAPP and LUC replied.

The full report of this valuable discussion will be placed before the readers of this Journal. They will find it a study of the greatest interest to work out the middle course between extreme readiness to operate on the one hand and on the other hand undue exercise of patience—"the patience even of the aurist," to which Professor MacEwen made somewhat contemptuous reference.

Proceedings.—Wednesday, August 9.—Afternoon Sitting.

Professor Politzer presided. Lantern demonstrations were given in the theatre by Dr. ARTHUR HARTMANN (Berlin) on *The Anatomy of the Frontal Sinus and Ethmoidal Cells*; Dr. ALDREN TURNER (London), on *The Course and Connections of the Central Auditory Tract*; and Dr. R. D. JOYCE (Dublin), on *The Topography of the Facial Nerve in its Relation to Mastoid Operations*.

Dr. L. KATZ (Berlin) gave a demonstration in the Museum of microscopic and macroscopic preparations of the organs of hearing. Transparent macroscopic preparations have received his special attention.

Papers were read by Dr. P. RUDLOFF (Wiesbaden) on *The Operation of the Removal of Adenoid Growths with the Head hanging over the Table while the Patient is under the Influence of Chloroform*; and Professor V. UCHERMANN (Christiania) on *Rheumatic Diseases of the Ear*.

Proceedings.—Thursday, August 10.—Morning Sitting.

Professor GRAZZI presided. The following were read:

A paper by Dr. E. MÉNIÈRE (Paris) on *The Treatment of Chronic Suppuration of the Attic* was read in his absence by Dr. LERMOYEZ (Paris); Dr. MOURE (Bordeaux) treated some points in *The Technique of Trephining the Mastoid*; Dr. E. B. DENCH (New York), *The Operative Treatment of Mastoid Inflammation*; and Dr. DELIE (Ypres) read the account of a case of *Panotitis with Cerebral Complication*—operation, death, autopsy.

Mr. A. H. CHEATLE (London) contributed a detailed study of *The Petro-squamosal Sinus, its Anatomy and Pathological Importance*. The paper was copiously illustrated with lantern photographs.

Professor GRAZZI (Florence) described his *New Method of Treatment for Chronic Catarrhal Inflammations of the Pharynx, especially in relation to Diseases of the Ear*.

Dr. MALHERBE (Paris) gave an account of his somewhat hardy *Surgical Treatment of Dry Chronic Median Otitis, by scooping out the Petro-Mastoid Bone, with and without Intubation*.

Professor AVOLEDO (Milan) narrated two cases of *Involvement*

of the Face resulting from Propagation of Inflammation from Acute Suppurative Diseases of the External and Middle Ear; and Dr. LOUIS BAR (Nice) discussed the diagnosis of *Abscess in the Interior of the Mastoid*, and *Furunculosis of the External Auditory Meatus*.

Dr. COSTINIU (Bucharest) related the results of *Acoustic Exercises on Deaf-Mutes*, which have been so vigorously discussed in Vienna.

Proceedings, Friday, August 11.—Morning Sitting.

Professor LUCÆ occupied the chair. Dr. GOLDSTEIN (St. Louis, U.S.A) discussed *The Therapy of the Tympanic Mucous Membrane*, and Professor EEMAN (Ghent) *Sclerosis of the Middle Ear*, the latter dwelling particularly on the importance of studying the general constitutional condition.

Dr. P. LACROIX (Paris) reviewed *The Aural Complications in Ozana*, and Dr. RUTTEN (Namur) showed a remarkably large *Exostosis of the Right Auditory Meatus* with an interesting history.

Professor POLITZER (Vienna) read a paper on *The Extraction of the Stapes*, with demonstrations of histological preparations.

Professor OSTMANN (Marburg) made a claim for the curability of some hitherto incurable forms of deafness by means of *Vibratory Massage of the Conducting Apparatus*, Professor LUCÆ urging in preference the use of his well-known spring pressure probe.

Professor FARACI (Palermo) dwelt on the acoustic and functional importance of *Mobilization of the Stapes*.

Dr. G. NAVOLI (Rome) advocated the *Pneumatic Treatment* of diseases of the ear, and Dr. F. FISCHENICH (Wiesbaden) *The Treatment of Catarrhal Adhesions in the Middle Ear by Intra-tympanic Injections of Pilocarpine*.

Dr. SNOW (Syracuse, N.Y.) ventured on an anticipation of *Twentieth Century Prognosis in Chronic Catarrhal Deafness*.

Dr. MIXK (Zwolle) read a communication in support of *Pneumo-Massage of the Tympanum with High Degrees of Pressure*.

Dr. GARNAUT (Paris) narrated a case of *Mobilization of the Stapes*, three years previously, in a man seventy-two years of age, deaf for forty years, absolutely so for fifteen, with great and permanent improvement in hearing.

It will thus be seen that although some of the papers of considerable interest were unavoidably crowded out, a large number out of the long list of communications were actually read. This involved an undesirable limitation of discussion in several instances, and the translation of some papers had unfortunately to be omitted.

Closing Meeting, Friday, August 11.

The PRESIDENT expressed his pleasure at being able to announce that an invitation had been received from France, and that the next Congress would be held in the city of Bordeaux.

The following were elected to form the International Organization Committee of the next Congress, with Dr. Moure of Bordeaux as its President-Elect :

AMERICA.

Clarence Blake	...	Boston.	Randall	...	...	Philadelphia.
Orne Greene	...	Boston.	Holmes	...	...	Chicago.
Dench	...	New York.	Pierce	...	...	Chicago.
St. John Roosa	...	New York.	Daly	...	...	Pittsburg.
Knapp	...	New York.	Barkan	...	...	San Francisco.
Goldstein	...	Cincinnati.	Roaldès	...	...	New Orleans.
Bryan	...	Washington.				

AUSTRIA-HUNGARY.

Politzer	...	Vienna.	Böke	...	...	Buda Pesth.
Pollak	...	Vienna.	Szenes	...	...	Buda Pesth.
Morpurgo	...	Trieste.	Zaufal	...	...	Prague.
Habermann	...	Graz.				

BELGIUM.

Delstanche	...	Brussels.	Coosemans	...	...	Brussels.
Capart	...	Brussels.	Delie	...	...	Ypres.
Huguet	...	Brussels.	Schiffers	...	...	Liège.
Goris	...	Brussels.	Eeman	Ghent.

DENMARK.

Schmiegelow	...	Copenhagen.	Holger Mygind	...	Copenhagen.
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FRANCE.

Chatellier	...	Paris.	Lermoyez	Paris.
De la Charrière	...	Paris.	Lubet-Barbon	Paris.
Gellé	...	Paris.	Loewenberg	...	...	Paris.
Ménière	...	Paris.	Gougenheim	...	...	Paris.
Baratoux	...	Paris.	Moure	...	...	Bordeaux.
Luc	...	Paris.	Noquet	...	...	Lille.
Castex	...	Paris.	Lannois	...	...	Lyons.

(With power to add to the number.)

GERMANY.

Stacke	...	Erfurt.	Lucae	...	...	Berlin.
Passow	...	Heidelberg.	Jansen	...	...	Berlin.
Körner	...	Rostock.	Hartmann	...	...	Berlin.
Röpke	...	Solingen.	Bezold	...	...	Munich.
Kirchner	...	Würzburg.	Kümmel	...	...	Breslau.
Brieger	...	Breslau.				

HOLLAND.

Guye	...	Amsterdam.	| Moll	...	...	Arnheim.
Zwaardemaker	...	Amsterdam.	Van Anrooij	...	...	Rotterdam.
Posthumus Meyjes	...	Amsterdam.				

ITALY.

Grazzi	Florence.	Chiucini	Rome.
Avoledo	Milan.	De Rossi	Rome.
Bobone	San Remo.	Ferreri	Rome.
Brunetti	Venice.	Cozzolino	Naples.
Putelli	Venice.	Gradenigo	Turin.
Secchi	Bologna.	Masini	Genoa.
Faraci	Palermo.	Poli	Genoa.

RUSSIA AND POLAND.

Benni	Warsaw.	Stepanoff	Moscow.
Heinmann	Warsaw.	Von Stein	Moscow.
Orloff	Kief.	Scott	Moscow.
Pietkowski	Lublin.		

SPAIN.

Sune-y-Molist	Barcelona.	Gonzalez Alvarez	Madrid.
Botey	Barcelona.	Urñela	Madrid.
Verdós	Barcelona.	Moresco	Cadiz.
Sota-y-Lastra	Sevilla.	Casanova	Valencia.

NORWAY AND SWEDEN.

Uchermann	Christiania.	Ceterblad	Stockholm.
Hörbye	Christiania.	Lagerlöf	Stockholm.

SWITZERLAND.

Secretan	Lausanne.	Schwendt	Basle.
Rohrer	Zurich.	Siebenmann	Basle.

BRITISH EMPIRE.

Arthur Cheatle	London.	Cresswell Baber	Brighton.
A. E. Cumberbatch	London.	W. Milligan	Manchester.
Sir W. Dalby	London.	A. Bronner	Bradford.
G. P. Field	London.	D. R. Paterson	Cardiff.
Dundas Grant	London.	George Stone	Liverpool.
W. Hill	London.	P. McBride	Edinburgh.
Jobson Horne	London.	Thomas Barr	Glasgow.
Macnaughten Jones	London.	A. W. Sandford	Cork.
E. Law	London.	C. E. FitzGerald	Dublin.
Urban Pritchard	London.	J. W. Barrett	Melbourne.
StClair Thomson	London.	Birkett	Montreal.

It was then announced from the chair that the Lenval Prize, founded by Baron Lenval, had been awarded to Dr. Charles Delstanche of Brussels for his instruments for treating the middle ear, this adjudication of the prize receiving the heartiest applause of the meeting.

The PRESIDENT in his closing speech thanked the Organization Committee for their kind support, and referred to the work that had been done by the Secretary-General, Mr. Cresswell Baber, the Honorary Treasurer, Mr. Cumberbatch, and by the Chairmen and Secretaries of the various Sub-Committees. Lastly, he spoke of the work done by those responsible for the Museum, and how the

results had pleased them all. He tendered his thanks to Mr. Field for his kind hospitality, and concluded by expressing his indebtedness to all the members of the Congress, who had really formed the foundation layer of its success.

Professor GRAZZI (Florence) proposed a most cordial vote of thanks to the President, which was carried by acclamation.

Dr. BENNI (Warsaw), in the name of the foreign members, proposed a vote of thanks to the Organization Committee, to which Mr. CRESSWELL BABER replied, expressing the hope that the Congress would be an encouragement for the future study of otology.

Professor POLITZER (Vienna) spoke of the Museum as the outstanding feature of the Congress, and expressed the thanks of the Congress to Mr. Arthur Cheattle and Dr. Jobson Horne for their incessant and indefatigable labours, which had so materially helped to render that Congress such a great success.

Mr. CHEATTLE thanked Professor Politzer for his kind expressions, and with a few farewell words from the PRESIDENT the Congress closed.

During the week the following list of the "official" entertainments was fully carried out with the happiest results: On Monday evening, August 7, the President held an opening reception at the Examination Hall of the Royal Colleges of Physicians and Surgeons. The following evening the British Otologists gave a public reception to the members of the Congress at the King's Hall, Holborn. On Wednesday evening, August 9, the President entertained at dinner at the Hotel Cecil the Foreign and British Otologists, and on Friday a dinner was given by the British Organization Committee to their foreign guests at the Whitehall Rooms, Hotel Metropole. The week concluded with an excursion to Windsor Castle, and to lunch at Bray Court by the kind invitation of Mr. George P. Field.

These were largely supplemented by private hospitality, in which the following among others took part: Mr. Cresswell Baber, Dr. Bronner, Mr. Cumberbatch, Dr. Dundas Grant, Dr. Hill, Dr. Macnaughton Jones, Dr. Law, Dr. StClair Thomson. Mr. Richard Lake organized a successful reproduction of a German University "Kneipe," in which many besides our Teutonic visitors cheerfully took part.

"Omne tulit punctum, qui miscuit utile dulci."

BRITISH MEDICAL ASSOCIATION.

ANNUAL MEETING, HELD AT PORTSMOUTH, AUGUST 1 TO 4.—
SECTION OF LARYNGOLOGY AND OTOTOLOGY.

THIRTY YEARS' PROGRESS IN RHINOLOGY.

AN ADDRESS BY

E. CRESSWELL BABER, M.B. LOND.,

Surgeon to the Brighton and Sussex Throat and Ear Hospital; President
of the Section.

GENTLEMEN.—In opening the work of this Section, it may not be out of place if I make a few remarks on the development of Rhinology during the last thirty years.

It is just thirty years ago that Wilhelm Meyer, of Copenhagen, brought his eventful discovery of adenoid vegetations to this country, and read a paper on it before the Royal Medical and Chirurgical Society in London on November 23, 1869.* He had previously published an article in the *Hospitals Tidende* (1868), and subsequently wrote a long monograph on the subject in German in the *Archiv für Ohrenheilkunde* of 1873. Meyer, as I remember him in Copenhagen in 1874, was a charming personality, enthusiastic in his work, and full of energy, with, as he himself described it, his heart in his general practice, his intellect in his special work. Meyer's paper, which forms a landmark in modern Rhinology, appears to have attracted little immediate attention in this country, and it was not till some years after its publication that we find any original articles on the subject in England. Meyer, as he acknowledges, had been preceded in his discovery by the publication of scattered cases of adenoid vegetations by several observers, notably by Voltolini and by Loewenberg; but for an exhaustive study of the disease, both as regards diagnosis, prognosis, and treatment, and for a recognition of its great importance and far-reaching effects, we are undoubtedly indebted to Wilhelm Meyer, who, as Mackenzie says, may be justly considered as the discoverer of these growths. Meyer recognised his first case by palpation, and laid great stress on this mode of examination. His description of this disease was so full and complete, that except in pathology and treatment, no material advance has since been made. Numerous fresh instruments have, as you

* *Medico-Chirurgical Transactions*, vol. liii.

are aware, been devised for the operative treatment of adenoids, and removal under general anæsthesia is now an everyday occurrence. The use of general anæsthesia was, I believe, first practised in this country, one of the pioneers being Dr. Woakes, who, as mentioned in a paper on adenoid vegetations which I wrote in 1882,* had been using anæsthetics for the purpose, to a considerable extent before that date.

The way for Meyer's discovery had been paved by the invention by Czermak some ten years previously of the art of posterior rhinoscopy. Voltolini, who published his first work on rhinoscopy in 1861,† began to work at this subject soon after Czermak, and was an ardent advocate for many years and in many writings of this method of examination. To him we are indebted for insisting on the importance of the palate-hook, although one had been previously used by Czermak. Voltolini emphasized the fact, that firm pressure with the hook was better borne than slight irritation, and therefore advocated the use of a large, strong hook drawn rapidly and firmly forwards. It was not, however, till more than twenty years afterwards when White, of Richmond (Virginia), and others introduced the self-retaining palate-hook, employed after cocainization, that the full benefit of this method of examination was apparent, and I think that, even now, the value of this instrument is insufficiently taught in our schools, as it can be so easily employed on almost any patient, and gives an insight into the naso-pharyngeal cavity obtained by no other means. This instrument alone enables us to fully examine with the eye the posterior wall of the cavity: otherwise the view of the latter obtained in the mirror is usually too foreshortened to be of much value. Of Voltolini it has been truthfully said in a recent work:‡ "In the course of a long and laborious life he has presented science with many valuable observations: even where he errs, he is more instructive than the eclectic, from whom we only obtain a selection of opinions current at the time, without meeting with any original thought."

Anterior rhinoscopy, which is, of course, of much older date, cannot, singularly enough, be said to have been much cultivated in modern times until 1859, when Markusovsky invented the speculum bearing his name. Thudichum of London, and Duplay of Paris,

* "Remarks on Adenoid Vegetations of the Naso-Pharynx," *British Medical Journal*, August 5th, 1882. See also paper by Dr. Woakes, *Transactions of the International Medical Congress*, London, 1881, vol. iii., p. 291.

† "Die Rhinoscopie und Pharyngoscopie," *Festschrift*, Breslau, 1861.

‡ *Handbuch der Laryngologie und Rhinologie*, edited by P. Heymann, vol. i., p. 32. Article by P. Heymann and E. Kronenberg.

both published accounts of their specula in 1868, instruments which, for their purpose, cannot be improved on at the present day. Fränkel's speculum dates from 1872. But real advance in anterior rhinoscopy was, I think, more due to the use of light reflected from a mirror with a central perforation than to any special form of speculum.

In 1882 the study of anterior rhinoscopy, and of nasal diseases generally, received great impetus from the well-known researches of Zuckerkandl on the normal and pathological anatomy of the nose and its accessory sinuses. The next most noticeable event in rhinology was the ardent championship of reflex nasal neuroses by Hack, of Freiburg. In an able brochure published in 1881, and in numerous other papers, Hack contributed abundant material on the subject, and albeit his theories were not all sound, still, a valuable substratum of truth, sifted by later observers, remains, for which we are indebted to this brilliant worker. Amongst other things, Hack's theories led to an extended use of the galvanic cauter, invented by Middeldorpf some years before, and much employed by Voltolini. Moderation in regard to its use has now happily set in, and it is not used so promiscuously as I am afraid it was at one time. It may be mentioned that before Hack both Voltolini and B. Fränkel had drawn attention to the relation existing between asthma and certain forms of nasal disease. Very shortly after this date rhinology was destined to undergo what amounted practically to a revolution by the introduction of cocaine. In 1884 Jellinek published an article on its use in the throat and nose. In spite of the originally high price, the employment of cocaine rapidly spread in this department, not only on account of its anæsthetic properties enabling numberless operations to be painlessly performed, but also on account of its contracting power on the nasal mucous membrane. Its value in the latter respect in enabling a successful examination to be made may be fairly compared to that of atropine in examination of the eye.

While all these rapid developments were taking place, with regard to the careful examination and treatment of the nasal cavities, the study of the various reflex neuroses connected with the nose, and the use and action of cocaine, a new phase of rhinology was springing up. I refer to the study of sinus diseases. Diseases of the accessory sinuses when producing gross extra-nasal lesions had been known from time immemorial, and many fearful and wonderful operations had been devised for their removal. But the study of diseases of the sinuses, especially chronic empyema with only nasal symptoms ("Latent Empyema," Lichtwitz), was

practically a new departure, and materially enlarged the scope of rhinology. The nasal cavities, as we can inspect them, were beginning to be regarded as only a small portion of the nasal tract, the gateway, as it were, to large and important cavities whose diseases merit careful study. Ziem, in his publications, dating from 1880 onwards, did pioneer work in latent empyema of the antrum, and was followed by a host of observers, who added largely to our knowledge. One of the most stimulating is Grünwald, and whilst his conclusions are doubtless some of them extreme, his work is highly suggestive, and has greatly increased the interest taken in the subject. All the different sinuses have been carefully investigated, including the frontal sinus, on some of the diseases of which we are about to hold a discussion.

Amongst other developments of modern rhinology may be mentioned the general recognition of the importance of nasal respiration, and the improvement of the means of treating various forms of nasal obstruction. The pathology of the nose has continued to advance *pari passu* with that of other parts, and bacteriology has been laid under contribution in investigating the diseases of this organ. The physiology of the nose has also been re-investigated.

In these few remarks I have merely attempted to point out some of the rapid strides which this speciality has made in the last thirty years, and in doing so have had to omit the names of very many successful workers, some of whom are honouring us with their presence at this meeting. This short sketch has, however, I hope, shown that the progress of modern rhinology is in nowise behind that of any of the other medical sciences, and I feel confident that by persevering, and judicious application of the general knowledge of medicine and surgery to this particular branch, the efforts of its many devotees all over the world will enable it to make as rapid progress in the future as has been accomplished in the past. If I have confined my remarks to rhinology, it is not that I consider it more important than laryngology and otology, but that a review of all three would have been impossible without encroaching unduly on your time.

Before concluding, I should like to express the pleasure that I feel at seeing so many of our foreign colleagues present, and to offer them a cordial welcome in the name of the Section, and an invitation to take part in the proceedings.

A DISCUSSION ON

THE DIAGNOSIS AND TREATMENT OF CHRONIC EMPYEMA
OF THE FRONTAL SINUS.

THE discussion was opened by Mr. CHARTERS SYMONDS of London and Dr. E. J. MOURE of Bordeaux.

Mr. CHARTERS SYMONDS divided the cases into three groups :

1. Those in which there is purulent discharge from the nose, with, as a rule, formation of polypi.
2. Those in which there is distension of the sinus without nasal discharge.
3. Those in which there is distension of sinus, together with nasal discharge of pus.

Attention was chiefly given to the diagnosis of the first class of cases, as the class most frequently coming before the rhinologist. He laid stress upon the fact that, whenever pus was seen amongst or around polypi, suppuration of one or more of the sinuses was indicated. He considered the pus to be the cause of the polypi, and to explain the frequent recurrence of polypi when the pus itself had not been traced to its origin.

Where the polypi were numerous, it was impossible to say from which sinus the pus was coming, but he held that where they were very numerous, and there was much pus, with a foul odour, the maxillary antrum was certainly involved, with or without the frontal sinus. In the pure frontal cases the polypi were less numerous, the granulations fewer, and the pus as a rule inodorous; in these cases also there was no pain. After the removal of the polypi, he deemed the routine passage of a probe and cannula into the frontal sinus necessary. Passing on to the question of treatment, he divided it into intra- and extra-nasal. After inserting the cannula and irrigating the cavity with boric acid or weak formalin, he suggested filling the cavity with an emulsion of iodoform and glycerine, while the patient lay on a table or couch with the head hanging over the end. In this position, half to one drachm could be introduced, the amount depending upon the size of the cavity.

In one instance, in which over half an ounce of thick pus had been removed, this plan was attended with complete success, and he recommended it as worthy of trial.

In two other instances it had failed, and in one of these the sinus was found to be filled with polypi, the other had not yet been operated upon. He strongly deprecated all attempts to enlarge the opening into the sinus from the nose.

In considering the extranasal treatment, he referred to those patients who declined such an operation, and asked what risk they ran. He himself was disposed to think that, so long as the drainage was free and pain absent, the risk was very slight, and that we are therefore not compelled to insist upon operation. He mentioned cases that he had watched for eight to ten years.

For opening the sinus, the incision through the eyebrow was, he thought, generally adopted. The bone, he thought, was best removed by means of a gouge. Having opened the cavity and found pus, the question was what more should be done. We might, he said, simply clean the cavity, remove the polypi, ascertain that the opening was free into the nose, and then close the wound; or, again, enlarge the channel into the nose, or place a drainage-tube from the sinus into the nose; or, again, remove the greater part of the anterior wall and stuff the cavity; or, lastly, place a metal drain through the incision, so that the patient could irrigate the cavity daily.

Examples of all these methods of treatment were given, attended in some with success, in some with failure. On the whole, he was disposed to advocate free enlargement of the channel into the nose, with closure of the incision, in the severe cases with polypi. In the slighter cases, where no polypi were found, he thought it sufficient to clear the cavity and insert iodoform. After operation he advised intranasal irrigation for a week, or, where this was impossible, through a small opening maintained in the wound by a metal plug.

Dr. E. J. MOURE considered the diagnosis of frontal sinus empyema sometimes fairly easy; at other times it offers some difficulty. Although habitually associated with empyema of the antrum, it may occur alone, as he had several times observed.

Probable signs, he said, were unilateral discharge of pus, seen on rhinoscopic examination after the antrum has been thoroughly cleaned by irrigation; growths in the upper part of the infundibulum, in the direction of the naso-frontal canal, with dilatation of this canal, giving free access to the sinus; supra-orbital pains, spontaneous or on pressure.

As certain signs he mentioned temporary or permanent swelling over the frontal sinus, or the presence of a fistula in that region; the flowing away of pus after irrigation, when that is possible in the frontal sinus; darkness on transillumination as compared with the opposite side. Absence of the sinus, fortunately rare, also gives rise to this sign.

The differential diagnosis between frontal empyema and that of

the anterior ethmoidal cells may be difficult, but injection and transillumination will generally suffice to solve the difficulty; and it is worth remembering that ethmoidal growths are generally situated farther back than those coming from the frontal sinus.

The treatment, he said, varies somewhat, according as one has to deal with the simple mucous form or with cases complicated with growths or fistulæ. In all cases it is necessary to ascertain the condition of the antrum, and if found diseased it must be treated before the frontal sinus. The treatment of the mucous form is purely medical, and will consist in inhalations; oil sprays, antiseptic or caustic; the air-douche, simple or medicated, administered with Politzer's bag; irrigation through the naso-frontal canal, where this is possible, taking care to avoid the making of a false passage. The treatment of the suppurative forms varies according to the severity of the case.

In the milder forms the infundibulum and naso-frontal canal may be cleared of growths with the curette, and direct irrigation may be practised when the conditions admit of it.

Diffenbach and Schaeffer's method of opening the sinus from the interior of the nose he considered dangerous. Finally, when more radical measures are required, one must have recourse to external operation by the methods of Kuhnt or Jansen, or, better still, Ogston-Luc. If the sinus be thoroughly curetted, and care be taken to avoid peripheral infection, the last-named operation he regarded as an almost ideal procedure for the radical cure of frontal empyema. If the sinus be exposed and rendered aseptic, and free communication be established with the nose, no other drainage-tube is necessary, and washing-out should as far as possible be avoided, as it is liable to reinfect the curetted cavity. This operation is suitable also for cases in which there is bone disease with external fistula, or even intracranial fistula.

Of late years this method has yielded excellent results in his experience. None of his cases have relapsed, and the scar is so concealed by the eyebrow as to be unnoticed.

Dr. RÖPKE (Solingen) read a paper on his *Method of operating for Chronic Fronto-Ethmoidal Suppuration*.

Dr. RÖPKE said that many of his patients are employed in steel and iron factories as grinders. The mortality amongst these at Solingen is very high; 80 per cent. die at an early age from diseases of the organs of respiration.

Last year he and a colleague were directed by the Government to examine 1,250 grinders, being 30 per cent. of all the grinders

working in Solingen and the neighbourhood. They found only 12 per cent. in good health; the others were almost all affected by diseases of the throat, nose, or lungs. The result of this examination was published in a *Zeitschrift für Hygiene*. He mentioned these facts in order to show that he saw many cases of diseases of the antrum of Highmore, of the ethmoidal cells, and of the frontal sinus.

In most cases of chronic frontal empyema he believed the ethmoid to be also affected; and most authors have had regard to the ethmoid cells in their published methods of operation. During the last two years he had operated for chronic fronto-ethmoidal suppuration in the following manner: Exactly following the well-known method of Kuhnt, he makes the subperiosteal resection of the whole anterior wall of the frontal sinus, and scrapes out the diseased mucous membrane. The horizontal incision is two-thirds of the length of the supra-orbital ridge, the vertical incision joins it at right angles; and the whole flap, including periosteum, having been reflected, the anterior wall of the sinus is chiselled away.

Then the meatus-fronto-nasalis is enlarged by breaking away a part of the inferior wall of the sinus, as far as it is necessary, to overlook the ethmoidal cells. By scraping out the diseased mucous membrane of the ethmoid he obtains a large communication between the frontal sinus and the nose.

The large cavity is stuffed with a strip of iodoform gauze, and the flaps are stitched, except at a spot for placing the strip through the skin wound on the inferior supra-orbital ridge. If there is suppuration of both sinuses, the horizontal incision is made from one to the other side of the supra-orbital ridge in the manner described; the vertical incision joins the horizontal at right angles in the middle. In these cases the anterior wall of both sinuses, the septum, and the nasal process of the frontal bone, are chiselled away. Only through one side is a strip of gauze introduced; the other wound is closed.

Three days after the operation the strip is taken away and is not renewed, because the secretion of the cavity can flow off through the nose.

He had operated on 25 patients in this manner, 13 of whom were affected on one side, 12 on both sides. All were cured of their affliction. The cases healed in from ten days to six weeks. Two patients, having had abnormally large cavities, were considerably disfigured; the other ones were not disfigured by the scars. Photographs of the results were shown.

He concluded by remarking that of course he did not operate

till he had exhausted conservative methods. He believed that most chronic cases could only be cured by radical procedures.

(A more complete account of Dr. Röpke's method of operating upon the frontal sinus may be read in the *Archiv. f. Laryngologie*, 8 Bd., 2 Heft, and also in the report of the seventieth meeting of the *Deutsche Naturforscher und Aerzte-Gesellschaft*.)

Professor Luc (Paris) read a paper *On a Case of Chronic Empyema of the Frontal Sinus; Extension of the Infection to the Opposite Side in spite of Three Successive Operations by the Ogston-Luc Method. Finally, Development of Diffuse Septic Osteitis of the Frontal Bone, and Death in Consequence of an Intracranial Infection in the Region of the Cortical Motor Centres of the Limbs.*

The patient, a strong young man of twenty, with a good history, began to have purulent discharge from the nose at the end of 1893.

In February, 1897, Dr. Lermoyez performed the Ogston-Luc operation upon him for chronic fronto-maxillary suppuration. The antrum was opened through the alveolus; a frontal fistula remained.

In July, 1897, Dr. Lermoyez opened and scraped the antrum and repeated the Ogston-Luc operation. The frontal wound finally healed, but crusts and creamy pus were still visible in the middle meatus.

In August, 1898, he came to Dr. Luc, who found that, whilst the left antrum was cured, the left frontal sinus was still suppurating, and the disease had extended to the right antrum and frontal sinus.

On November 6, 1898, the patient consented to operation. The antrum was found but slightly diseased, probably acting as a reservoir. Both frontal sinuses were freely exposed by a vertical and horizontal incision, and a central opening of about 2 inches diameter was made in the bone. The right sinus was full of creamy pus and granulations; the left was narrowed by a kind of hyperostosis, and full of fibrous tissue, which contained few fungous elements and no pus, the naso-frontal duct being occluded on that side. Both frontal sinuses and such of the ethmoidal cells as were accessible were curetted, and the left naso-frontal duct was opened up. No drain was used. The wound was closed and a compress bandage applied. The external wounds healed perfectly, but pus and crusts continued to form in the left nasal fossa, and there was also a little pus in the right side.

December 26: Two days after an unsuccessful attempt to wash out the frontal sinus by means of a long curved probe introduced

through the nostril, an abscess formed over the left eye. This was opened and drained. The wound healed, but the parts continued boggy, and pressure on the forehead caused pus to flow from the nose. A compressing bandage was therefore applied, but the subcutaneous suppuration extended upwards, and on January 18 a fourth operation was undertaken in order to stop the infective process.

The whole of the frontal bone was exposed by incisions; its surface was rugous and covered with unhealthy granulations. The remains of the anterior walls of the sinuses were removed, and all diseased areas thoroughly curetted and purified with chloride of zinc. The upper part of the wound was sutured and the cavity packed with gauze. On January 24, about a week after this operation, a subperiosteal abscess developed at some little distance from, and quite independently of, the frontal wound. This was at once opened and curetted.

On February 8 a second subperiosteal abscess formed. It was at once treated.

On February 17 a third subperiosteal abscess was detected, higher up in the hairy region of the scalp.

On March 8 the first subperiosteal abscess was healed, the second healing, and the third discharging. All the lower part of the great wound was suppurating freely, the bone was still denuded, and the patient's general condition was beginning to decline. About this time the patient began to show signs of greatly increased nervous excitability, and a week or so later he complained of rigidity of the nape of the neck.

On March 12 there was distinct loss of power in the left leg, with a tendency to jerking and tremor. The knee-jerk was exaggerated. The temperature rose to 102° to 103° . The paresis increased and affected the lumbar muscles. It was concluded that the infection had reached the internal surface of the bone, and that pus was forming either on the external or internal surface of the dura, close to the cortical motor centre for the limbs. To deal with this condition a fifth operation was undertaken on March 13.

The whole of the frontal and right parietal bones were exposed, and part of the left parietal bone. The surface of the bones looked rough and uneven, as if it had been corroded by an acid. After curetting and disinfecting the diseased surfaces, the skull was opened, a rectangular piece of bone (8 cm. by 4 cm.) being removed over the suspected areas. Two purulent deposits were found on the dura, one over the upper end of the right ascending frontal and parietal convolutions, the other on the left side behind the motor

region. The pus was removed and the dura mater curetted and touched with chloride of zinc. The dura mater was not opened, as the lesions found were considered sufficient to account for the symptoms. All the diseased surfaces were washed with sublimate, touched with strong chloride of zinc, and dusted with iodoform. Temperature 104° . The patient's mental condition was one of considerable excitement. He lay in a sort of lucid delirium, expressing his thoughts and feelings in improvised songs. He died two days after the operation, with a temperature of 106° . No post-mortem obtainable.

In reviewing the case, the author thought it was a mistake not to have laid open at once the second subcutaneous abscess (which appeared under the skin of the forehead), but to have contented himself with the application of a compressing bandage to favour the drainage which was taking place into the nose. The infection extended, and he was obliged after all to operate. The patient, however, was very averse to further interference, having already endured three severe operations. From this time the frontal bone became affected with a diffuse septic osteitis, as was shown by the series of three sub-periosteal abscesses, which were quite independent of the great primary frontal abscess. The fourth abscess developing on the inner surface of the bone caused the crural monoplegia, etc.

The continued progress of the nervous symptoms proved that in the last operation the operator did not go deep enough, as there was evidently a purulent deposit either on the pia mater or in the motor centres themselves. He had previously determined to open the dura at a subsequent operation if the nervous symptoms did not improve in twenty-four hours; but the rapid progress of the case made this impossible. He considered that he and his colleagues were fully justified in postponing the opening of the dura mater till it became evident that it was really necessary. Unfortunately it was then too late.

Dr. HERBERT TILLEY (London) read a paper on *A Fatal Case of Chronic Empyema of the Frontal Sinus*.

A young woman of twenty-two suffered from almost complete nasal obstruction due to polypi, associated with a profuse purulent discharge from the anterior and posterior nares. As the antra were found on puncture to be almost free from pus, it was concluded that the frontal sinuses and ethmoidal cells were diseased. There was no headache.

The right sinus was opened through an incision under the inner half of the right eyebrow, and as the septum between the sinuses

was found to be perforated, it was possible to curette both sinuses through the one opening. Both were full of pus and polypoid granulations.

The posterior wall of the right sinus appeared to consist of a healthy and a diseased part, separated by a line of demarcation. As the right naso-frontal duct was very narrow it was enlarged, but Dr. Tilley wished he had enlarged it even more freely. A tube was introduced, and the external wound closed; the sinus was washed out three times a day with a dilute antiseptic.

Ten days after this operation suppuration occurred and the wound broke down, so the right sinus was re-opened, the passage into the nose was much enlarged, and the radical operation was at the same time performed on the left sinus. Tubes were inserted, the wounds were closed, and syringing with antiseptics three or four times a day was carried out as before. About a week after this second operation a subperiosteal abscess formed over the lower median part of the forehead. It was opened at once. Four days later a similar abscess appeared over the left parietal eminence, and when it was opened bare bone was felt.

A succession of these abscesses continued to form at different points of the frontal and parietal bones, till at length the scalp covering them was undermined in every direction, and the outer table of the skull became necrotic in large patches, some of which separated and came away.

As a last resort a transverse incision was made completely across the scalp from ear to ear beyond the œdematous soft parts, but it was found impossible to check the septic phlebitis of the diploic veins, and after nine months' illness, curiously free from pain (with the exception of about ten days' severe neuralgia), the patient died from pneumonic symptoms associated with those of chronic sepsis.

Unilateral optic neuritis was noted latterly. Pus from the scalp contained virulent streptococci.

Post-mortem.—Extensive necrosis of the vault; inner table of frontal bone healthy.

Dura mater adherent to vault, which it practically held together, but membrane otherwise normal. Longitudinal sinus healthy. Sigmoid grooves full of pus. Numerous multiple abscesses scattered through the cerebrum. Cerebellum and medulla healthy.

Petrous bone necrosed; subdural abscess below apex of temporo-sphenoidal lobe on both sides. Pus round cavernous sinus, and abscess of hypophysis.

A large abscess round left Eustachian tube and carotid artery extending down into a large postero-lateral pharyngeal abscess.

Evidently the pus got underneath the dura when the process reached the petro-squamosal fissure, and thus the tegmen tympani and sigmoid grooves became affected, and necrosis of the pars petrosa followed. Left mastoid antrum and sigmoid groove communicated by a large hiatus. There was septic pneumonia and pulmonary abscess.

Dr. Tilley recorded the case as showing the risks which might occur in opening the frontal sinus. He referred to Dr. Luc's case, and also to another which he had lately seen under the care of a well-known surgeon, as showing that such cases might occur in the most skilful and experienced hands. Possibly too vigorous curetting might open some of the diploic spaces, which afterwards became septic. In the presence of a septic osteo-myelitis only the most radical procedures offered any chance of success.

The discussion on *The Diagnosis and Treatment of Chronic Frontal Empyema* was then thrown open.

Mr. ERNEST WAGGETT (London) summarized his views as follows:

1. Acute frontal empyema nearly always ends in spontaneous recovery.

2. After a general involvement of the accessory sinuses, the frontal sinus is the first to recover.

3. The normal ostium is admirably situated for purposes of drainage.

4. Consequently the mere fact that a frontal empyema is chronic affords presumptive evidence that either the ostium is abnormal and inefficient as a drain, or that some serious lesion (caries, polypus, etc.) exists in the sinus, incurable by mere irrigation. Thus chronicity necessitates a cutting operation.

5. Inasmuch as the external operation is safer, easier, and more effectual than any operation performed through the nose, it is desirable that all chronic frontal empyemas should be treated by external operation.

Dr. SARGEANT SNOW (Syracuse, N.Y.) said he desired to emphasize the importance of intranasal drainage. He had found it easy in several cases to lay the anterior superior ethmoidal cells and the frontal sinus into one cavity, operating through the nose, and using cutting forceps and a curette. From personal experience, he had great and growing confidence in this method. To prevent the recurrence of polypoid overgrowths of the mucosa 8 per cent. chromic acid applied on cotton-wool was an excellent application. He recommended the intranasal route for the majority of cases.

Mr. W. J. NOURSE (London) remarked that the external operation was not devoid of danger. He thought a cannula could generally be introduced from the nose, provided it were bent almost to a right angle. In one case he had successfully introduced a drainage-tube through the nose, and it caused in a few days dilatation of the canal.

Mr. MAYO COLLIER (London) said Mr. Symonds had omitted the latent forms first described by Ogston. He thought they were the parent of all the other forms. Chronic headache was the principal symptom, worse at night or on stooping, with tenderness on percussing the frontal region.

The objects of treatment were to establish free communication with the nose and deal with the diseased mucous membrane. He strongly advocated external operation through a median incision in all cases.

Dr. BRYAN (Washington) thought the fronto-ethmoidal cells were affected in all bad cases, and were the source of the trouble. He preferred the Ogston-Luc operation. He had abandoned tubes and used gauze packing, drawing it out through the nose and closing the external wound. Intranasal treatment was insufficient where there was caries.

Dr. DUNDAS GRANT (London) pointed out that frontal pain might be present in all the forms of empyema; hence, as a diagnostic sign it was of little value. On the other hand, the absence of such pain was of considerable importance as a negative sign.

The speaker approved strongly of experimental irrigation through the infundibulum; he used Hartmann's cannula, and found that it could be introduced in about 50 per cent. of all cases. It must be remembered that in the frontal sinus there was a considerable tendency to spontaneous recovery. He thought some cases recovered after discharging into the antrum, and that this might account for some of the remarkable recoveries recorded in antrum cases.

Retention of secretion might be due to tortuosity of the fronto-nasal duct, which was not removable; but it might also be due to enlargement of the anterior part of the middle turbinated body, which was removable. He considered that resection of the anterior part of the middle turbinated body was very important as a measure of treatment; in one case which he had seen that procedure seemed to have a great deal to do with the recovery, after the external operation had failed.

Rapid recovery must not be expected, and the discharge might

even be increased for the first few days, or even for a week after access had been obtained to the sinus.

He had found a very strong objection amongst patients to the external operation, and he felt sure that the more we persevered with intranasal methods—hoping and meaning to succeed—the greater would be the measure of our success. If the infundibulum were curetted at all, a very free opening should be made, as otherwise adhesions might form and cause obstruction.

In doing the external operation, he had found that one had a tendency to make the incision too low, so that it was not entirely covered by the eyebrow. Asymmetry of the sinus must be taken into account; in one case he had opened the left sinus when he meant to open the right. In conclusion, the speaker insisted upon the view that intranasal methods ought to be exhausted before any external operation was proposed.

Dr. WILLIAM HILL (London) thought when the frontal sinus was known to be diseased it ought to be opened. It was an exploration, not a serious operation. Probably the very serious cases which we had heard described were cases of ethmoidal and sphenoidal, as well as frontal, disease. Relapse was often due to the co-existence of ethmoidal disease. He deprecated the performance of such extensive operations as Dr. Röpke's. He used no drainage-tube nor any substitute, and considered them evils to be avoided whenever possible.

Dr. HERBERT TILLEY (London) thought it quite open to argument whether some of the milder cases were not better left alone without an external operation.

In cases where there was much discharge of pus, associated with polypi and granulations in the middle meatus, he thought it wise to advise the radical operation; in such cases the ethmoidal cells and maxillary antrum were often involved in the suppurative condition, associated with polypoid degeneration of the mucous membrane. The radical operation tended to cure these conditions, and to prevent the serious complications which sometimes ensued, such as cerebral abscess, meningitis, necrosis of bone, and ocular disturbances, including orbital abscess.

Unilateral discharge of pus from the middle meatus, with possibly supra-orbital headache, should always be deemed due to maxillary antral suppuration, unless transillumination or intranasal puncture by Lichtwitz's trocar proved the cavity was free from pus. If this was the case, then we know that we have to deal with the frontal sinus or the ethmoidal cells. The next proceeding should be to remove under cocaine the anterior half of the middle

turbinated bone, in order to obtain a good view of the hiatus semilunaris, and to allow a freer drainage from the frontal sinus, as well as rendering the fronto-nasal passage more accessible to a probe or fine catheter, at the same time enabling us to curette away granulations or small polypi from the neighbourhood of the anterior ethmoidal cells.

Cleansing nasal douches should be then used for a week or ten days, and then the external radical operation proceeded with. In connection with this Dr. Tilley advised :

1. That the skin incision should be under the inner third of the line of the eyebrow, and carried downwards to just above the internal palpebral ligament. Before commencing the operation the post-nasal space should be tightly plugged with a sponge.

2. That the anterior wall of the sinus should be freely removed, so that the soft parts may afterwards fall in well and tend to occlude the cavity.

3. That an opening large enough to admit the tip of the index-finger should be made into the nose, so that it cannot become occluded by granulations.

4. The sinus should be well curetted, its diverticula, if any, followed up and cleansed out, and the whole sinus swabbed out with a strong antiseptic solution, such as zinc chloride, 40 grains to the ounce.

5. The external wound should be closed at once and pressure, by means of an antiseptic dressing, applied. Personally, he preferred a simple drain-tube, extending from the lower part of the sinus to the external naris; it should be kept in from five to six days, as it will tend to prevent the formation of granulation tissue in the fronto-nasal passage. On removal it is quite easy to see into the sinus by anterior rhinoscopy, and to syringe it out through a suitable catheter.

In cases where both sinuses are involved, Dr. Tilley thought that from an æsthetic point of view it is much wiser to perform two separate operations, one under each eyebrow, because when healed the small scar under the eyebrow is scarcely noticeable; if, however, these are joined across the root of the nose, the scar is always well marked and noticeable.

If both frontal and maxillary sinuses are involved, he preferred operating on the frontal sinus first, and in this differed from Dr. Moure. The frontal sinus is the higher, and the antrum is often acting merely as a reservoir for the pus coming down from above. He would always, however, at the time of opening the frontal sinus place a temporary alveolar drain in the maxillary antrum, so as to prevent undue accumulation of pus there.

By proceeding *vice versa* the antrum may become reinfected by discharge coming from the frontal sinus, as had happened in a case recently under his care. Diagrams were shown indicating the intimate relation between the frontal sinus and antrum.

In a large straggling sinus with many diverticula it may be necessary to remove the whole anterior bony wall, so that the external skin-flaps will ultimately become adherent to what was originally the posterior wall of the sinus. In these large sinuses the incision under the eyebrow may not be sufficient, and a median vertical one has to be added in order to deal efficiently with the sinus cavity.

Dr. SCANES SPICER (London) said he would operate from the outside, but would deal with the nose first. Many cases recovered after breaking away the ethmoidal cells, and it was often difficult to say with certainty that the frontal sinus was diseased. In operating, he did all the sinuses at once if possible.

Dr. KIPP (New York) had experience almost exclusively of ophthalmic cases, and in such cases he considered the radical operation the only satisfactory one. He operated by a method somewhat similar to Röpke's, removing the whole anterior wall, but leaving the upper orbital margin, which prevented deformity. He hoped in the future to be able to dispense with drainage-tubes and their substitutes.

Dr. RUDLOFF (Wiesbaden) related the history of a fatal case of frontal empyema that occurred in his practice. A patient, aged forty, who had suffered for over twenty years from nasal polypi, came under his care. He found her to be suffering from multiple empyemata involving both antra, both sphenoidal sinuses, and probably both frontal sinuses. Polypi were present, and there was some sphenoidal caries.

The maxillary antra were first operated upon, next the sphenoidal sinuses, and then (the diagnosis being now certain) the left frontal sinus was opened from the outside, the infundibulum enlarged, and the cavity packed with gauze. The operation was apparently successful, but the wound never looked well, and a few weeks later caries of the posterior wall of the sinus was found. A second operation was performed, the whole of the diseased posterior wall was removed, and at the same time the right sinus was operated upon. Some days afterwards symptoms of extradural abscess showed themselves. An effort was made to check the infective process by removing all the infiltrated part of the frontal bone: but the temperature again rose, aphasia developed, followed by facial paralysis, and Dr. Rudloff concluded that there was supuration, involving more or less directly the third left frontal

convolution. He accordingly trephined, and on incising the bulging dura a considerable quantity of pus escaped from the subdural space. The patient died on the second day.

Post-mortem.—Purulent leptomeningitis over the left hemisphere, ulceration of third frontal convolution and its vicinity. Maxillary antra healed; sphenoidal sinuses healing.

A bacteriological examination was made by Dr. Bartholdy, and revealed the presence of (1) *Micrococcus roseus* (Eisenberg) and (2) *Bacillus mesentericus vulgaris*. This mixed infection explains the intractable nature of the case.

Dr. LOGAN TURNER (Edinburgh) drew the attention of the meeting to the use of transillumination in the diagnosis of chronic empyema of the frontal sinus. The question of its value was a vexed one. Dr. Moure in his remarks had laid some stress on the value of its use in diagnosis, and in a recent paper by Drs. Lubet-Barbon and Furet of Paris, the existence of opacity on the suspected side was considered by these authors to be of some importance. He (Dr. Turner) had devoted a considerable amount of attention to this subject, and while carrying out an investigation into the possible racial characteristics of the frontal sinuses, he had noted certain important clinical points. Five hundred skulls had been examined, and of these 357, or 71 per cent., had both frontal sinuses present; 80 skulls, or 16 per cent., had both sinuses absent; 63 skulls, or 12.5 per cent., had one sinus absent, the right in 45 skulls, the left in 18 skulls. All these skulls (500) were illuminated, the lamp being placed first under one supra-orbital margin and then under the other, the illuminated areas when present being mapped out in ink upon the frontal bone. The following facts were ascertained. In no skull where a sinus was absent was the frontal area illuminated. Of the 357 skulls in which both sinuses were present, 98 failed to be illuminated on both sides, 50 failed to be illuminated on one side. Of the 63 skulls in which one sinus was absent, 40 illuminated on the opposite or sinus side, while 23 were negative to illumination on the opposite side. In a number of skulls also, where both sinuses illuminated, variation in the intensity of the illumination on the two sides was noted. With these anatomical facts under consideration, the value of transillumination as a diagnostic aid in frontal sinus empyema was very considerably weakened: opacity did not mean necessarily the presence of pus. Again, Dr. Turner had found the frontal sinus illuminated well and accurately in more than one case in which on the following day pus under tension and polypi were found at the operation.

In considering the question of operative interference, on the other hand, the surgeon would undoubtedly find a preliminary illumination of the suspected sinus of value. If a suspected sinus could be thus mapped out, its dimensions could be ascertained and the position of the intervening septum located. The operator might thus be in a position to recognise beforehand the symmetry or asymmetry of the sinuses and the position of the septum.

Dr. Turner illustrated, by means of photographs of skulls in which the sinuses had been illuminated and mapped out, variations in the size of the sinuses and certain oblique positions of the septum.

Dr. P. J. MINK (Zwolle, Holland) demonstrated his apparatus for auscultating the frontal sinus. A bent vulcanite cannula is passed into the hiatus semilunaris; through this, from a Politzer's bag, air is blown up the infundibulum into the sinus, where, if pus or mucus be present, crepitations are produced. One end of an auscultating-tube is fixed by a spring over the sinus, whilst the other end is inserted into the ear of the observer, who is thus enabled to hear the crepitation if liquid be present.

Dr. STCLAIR THOMSON (London) submitted two questions: Was transillumination of any value in the living subject? and secondly, What was meant by "free curetting"? He judged it sufficient to remove simply the redundant polypoid degeneration, and thought that to attempt more was dangerous and might account for some unfavourable results.

The President, Mr. CRESSWELL BABER (London) expressed the pleasure it had given him to preside. The fatal cases showed the importance of early operation, and he agreed with Mr. Waggett as to the external route being the best as soon as the diagnosis was certain; but early diagnosis was often difficult when the discharge was slight. Tenderness was a fallacious sign, and misled him upon one occasion into opening a healthy sinus. He had not found transillumination reliable. Kuhnt's operation was sometimes very satisfactory and left little deformity.

Mr. CHARTERS SYMONDS replied. He thought there was general agreement upon certain points:

1. External operation was necessary in bad cases.
2. Attempts to break into the sinus from the nose were very dangerous.
3. Removal of the anterior part of the middle turbinated body was generally very useful.

There was a considerable balance of opinion in favour of intra-nasal methods, and these might suffice for simple cases, no force

being used. He agreed with Dr. StClair Thomson as regards the meaning of "free curetting"; he never attempted to remove all the mucous membrane.

Mr. ERNEST WAGGETT reported a case of *Cerebellar Abscess secondary to Chronic Suppurative Otitis Media; Evacuation; Recovery.*

The patient, a man of twenty-six, presented himself with chronic otorrhœa on the right side, and complaining of pain and giddiness, the latter symptom being new to him, and of three weeks' duration. A large polyp springing from the region of the aditus was removed. Three weeks later the symptoms returned, and foul pus was found pent up behind a plug of wool introduced by the patient.

Right facial palsy suddenly developed, involving all branches of the nerve. Schwartz-Stœcke's operation was performed, with relief of pain. No vertigo was experienced as he lay in bed, and the operation cavity was in every respect satisfactory. Nevertheless, the general health declined, and the patient felt "liverish" and devoid of appetite. Bowels constipated and breath foul. The optic discs had throughout been pink and ill-defined. Nineteen days after the operation he was complaining that rapid movements of the head caused vertigo, which once or twice was followed by nausea and vomiting.

Neuralgic pain was experienced in the occipital region, left side, shifting later to the right. Sluggish reaction of the somewhat dilated right pupil. The temperature, which rose to 100.5° on the tenth day, had for two days remained a degree below normal. The pulse-rate had fallen from 80 to between 60 and 65. The patient had gradually become extremely ill and weak. Staggering gait, but no evidence of forced movements; slight ataxia of the right arm. Exaggerated knee-jerks. Patient always lay on the left side.

On the twenty-first day, the symptoms being more pronounced, and intracranial and probably cerebellar abscess being diagnosed, the brain was explored.

Dean's operation was performed, a $\frac{3}{8}$ inch trephine being applied over the lateral sinus, one inch and a quarter behind the centre of the meatus and a quarter of an inch above it. The vessel, accidentally punctured, proved to be perfectly healthy. The meninges bulged in both posterior and middle fossæ, and pulsation was absent in both situations. The cerebellum was explored with Horsley's pus-seeker in ten directions, the penetration being carried

to the extreme limits, but no pus was found. Exploration of the temporo-sphenoidal lobe was also fruitless.

Five days later the patient appeared to be dying. The left optic disc was choked and swollen. The knee-jerks, previously exaggerated, were now completely absent. Temperature, 96°; pulse, 54. Both cerebrum and cerebellum pulseless, but the latter only was bulging into the wound.

After a fruitless exploration of the cerebellum with the pus-seeker, the left index-finger was introduced, and the posterior aspect of the petrous bone felt. On a second introduction to the depth of $3\frac{1}{4}$ inches in the direction of the apex of the petrous, an elastic rounded body was felt between the finger and the tentorium. The pus-seeker, which on previous occasions must have displaced this body, was made to penetrate. About an ounce and a half of foul green pus came away. The pulse-rate immediately increased in frequency. During the introduction of two decalcified bone tubes a drachm or more of clear amber-coloured fluid came away.

During the following eight hours the temperature rose from 96° to 100°, and the mental state changed from one of torpor to one of irritation. Lateral nystagmus slow to the left, with rapid return to the right. Patient complained of severe pain all down the back, and this symptom seemed very serious, viewed in conjunction with the escape of cerebro-spinal fluid mentioned above. On gently syringing the abscess cavity, slight vertigo and a humming tinnitus was experienced.

On the third day the patient was much better, the main symptom being great weakness, met by free use of brandy; constipation; no vomiting or vertigo. The right external rectus oculi found to be paralyzed. Nystagmus no longer constant on the fourth day, and the swelling of the left disc had completely subsided. Patient began to lie on the right side occasionally.

At the end of ten days he was in a fair way to recovery, and during the third week exhibited the voracious appetite noted by other writers, being reported by the nurses to be "eating seven dinners a day." No large amount of pus was ever secreted by the abscess cavity, but drainage was maintained for a month. The bone tubes required renewal several times, as they became absorbed and softened. They were finally removed a month after operation, and the wound closed by a plastic operation. The patient had by this time been walking about for some days without any vertigo. His general health is now excellent, and he is engaged at his trade of harness-making. When fatigued he notices slight diplopia, due to paresis of the right external rectus, also slight dimness of vision.

The knee-jerks did not return for two months, that on the right side being very slight at the third month. The grip of the right hand was weaker than the left a month after operation, but was equal to the left during the critical stages of the case. The facial palsy persists.

This appears to be the thirteenth successful case reported. Secher Walker of Leeds and Bechmann of Berlin have each recorded a case since the paper of Acland and Ballance, which included ten cases, was written.

SOCIETIES' MEETINGS.

PROCEEDINGS OF THE LARYNGOLOGICAL SOCIETY OF LONDON.

(Concluded from page 411.)

Case of Malformation of Palato-Pharyngei Muscles. Shown by Dr. FITZGERALD POWELL.

A man aged twenty-two presented himself for treatment at the hospital, suffering from suppuration of the middle ear, with hypertrophic rhinitis. This condition followed scarlet fever fourteen years previously.

On looking into his pharynx it was seen that the palato-pharyngei muscles forming the posterior pillars of the fauces on both sides, instead of passing down in the normal position, were drawn backwards and united together, leaving a small opening below the uvula into the post-nasal space.

The united muscles spread out over the posterior wall of the pharynx and became attached to it for some distance, when they parted and fell away in crescentic folds to their attachment to the posterior border of the thyroid cartilage.

The appearance on examination conveyed the impression that this condition was caused by extensive ulceration, and the history of severe scarlet fever deepened this impression, though on further and more prolonged inspection doubts arose as to whether this malformation was not due to congenital mal-development, the condition was so very symmetrical.

Mr. BABER thought it was the result of an ulceration, secondary to scarlatina rather than congenital. In the first year of this Society he had shown a similar case. He was not sure whether it was from scarlet fever.

The PRESIDENT had seen almost the same thing. He thought a deep ulceration, if in the centre, would cause that symmetry.

A Case of Epithelioma of the Pharynx. Shown by Mr. ATWOOD THORNE for Dr. DUNDAS GRANT.

The patient, a clerk aged fifty-eight, came to the hospital on May 25, complaining that for two months he had had increasing pain on swallowing. He had also been losing flesh somewhat for about the same period.

On examination there was seen a craggy mass on the right side of the pharynx, extending to the base of the tongue on the same side. With the finger the mass was found to be of almost cartilaginous hardness. There was marked involvement of the glands on the right side of the neck.

The case was shown especially for the consideration of the advisability of operation.

A Case of Pachydermoid Laryngitis treated with Salicylic Acid. Shown by Dr. DUNDAS GRANT (per Mr. ATWOOD THORNE).

The patient, a man aged fifty-six, "chucker-out" at a music-hall, came to the hospital at the beginning of April complaining of a "husky voice."

The cords were partially concealed by very swollen ventricular bands; they were obviously less tense than normal, and on their edges there was what looked like a layer of desquamating epithelium. The rest of the cords were red and succulent, and in the inter-arytænoid space the mucous membrane was swollen and sodden-looking. The nasal mucous membrane was in general hypertrophied, and there was a considerable excess of mucous secretion.

The patient was advised to give up all alcoholic drinks (in which he usually indulged somewhat freely), and twice a week, in gradually increasing strength, an alcoholic solution of salicylic acid had been applied to the thickening in the larynx. At the same time he was ordered an alkaline lotion to wash out his nose. He had quite regained his voice, and though the swelling had not altogether disappeared, the whitish thickening on the edges of the cords was hardly perceptible.

Case of Bilateral Abductor Paralysis, etc. Shown by Mr. RICHARD LAKE.

The patient, a man, had suffered from cough and dyspnoea for three months; both cords appeared fixed in the cadaveric position; there was a breaking-down gumma of the right tonsil. There was slight ptosis of the left eye, the left pupil was large and inactive,

there was paralysis of all the recti muscles and of the inferior oblique. Under iodide the conditions had improved.

A case of pachydermia laryngis in a tubercular patient was also shown by Mr. Lake.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held at Chicago, May 22, 23, 24, 1899.

(Concluded from page 423.)

Peritonsillar Abscess associated with Diphtheria: Report of Cases.
This was a paper by Dr. THOMAS HUBBARD, of Toledo.

His first case was that of a farmer, aged thirty years, with acute tonsillitis. On the fifth day a right peritonsillar abscess appeared, and on the next day the trachea showed the presence of false membrane. Antitoxin was given, but the dyspnœa from the tracheal condition became so urgent that a tracheotomy was done. The patient stopped breathing, but was brought to by artificial respiration, continued for nearly an hour. Death ensued from pulmonary œdema in eighteen hours. The second case illustrated the vagaries of mixed infection, for the various members of the same family suffered from all grades of throat inflammation, from ordinary tonsillitis to fatal diphtheria. In viewing such cases, care should be taken accurately to locate the pus, so that the incision for its evacuation should be made through tissue devitalized by softening, and not through healthy tissue, which site might permit a further diphtheritic infection.

Dr. F. C. COBB, of Boston, showed a series of photographs illustrating wax injections made into the pharyngo-maxillary space. The direction the injected material took was the same as that taken by pus in the course of the evolution of a clinical case.

Dr. NEWCOMB mentioned a case recently reported by Sendziak, in which diphtheria had been followed by multiple abscesses in the various tonsillar structures and double antrum inflammation. Rupture of the peritonsillar abscess on the base of the tongue was followed by a profuse hæmorrhage.

A Case of Lipoma of the Tonsil with Microscopical Section.
This paper was read by Dr. T. AMORY DE BLOIS, of Boston.

The patient was a man, aged forty years, who showed a mass the size of a peanut kernel, with a thin pedicle projecting from the upper part of the left tonsil, attached apparently to one of the crypts. It was removed by the hot snare under cocaine. Under

the microscope, it showed a delicate connective-tissue structure, with fatty contents.

Second Day—Tuesday, May 23.

Discussion: The Relation of Pathological Conditions in the Ethmoid Region of the Nose and Asthma. The question of pathology was discussed in a paper by Dr. HENRY L. SWAIN, of New Haven.

He asked whether one should consider the nasal condition as the cause or merely as a complication of the asthma, or were they both the outcome of some constitutional vice; and if the latter was true, what was the exact rôle played by the nasal affection. The conception of asthma, which was here assumed, was that there existed an irritability of the bronchial structures which might be the result of disease, and which was increased by frequent repetition. Next, it was assumed that some other structure was abnormal or over-sensitive. An excitation of the latter set up asthma. To connect the two, there was a connecting-link in the shape of the vasomotor system, or, as it was often called, the neurotic habit. The nose, therefore, was only one of the many organs which might stand in a causative relation to the asthma. The next questions to be considered were, What was the initial feature of the attacks? and why did they occur? The most obvious cause was the inhalation into the nares of some direct irritant. In other cases, even with polypi present, the exciting cause was not so clear, especially when the attacks came at about the same time each day. If we gave our patient certain remedies, or sent him away to another climate, some link in the chain was broken, and he did not suffer. The minute he returned to his old environment, he became as great a sufferer as before. In such a case, it was evident that the mere presence of the polypi did not explain the attack. The change in environment or in mode of life necessary to break up the vicious sequence might be almost trivial. In one case of the writer's, a change from a feather-pillow to a hair-pillow at night was sufficient to effect a cure. Various intranasal lesions were present in this case, but their removal did not relieve the asthmatic attacks; but when the pillows were changed, one of the middle turbinates, without any treatment whatever, diminished in size. Hence we had plainly one cause of nasal disease assured—namely, that certain irritations applied to certain nerve fibres would produce congestion and chronic inflammation, with swelling and watery discharge. This led to soaking of the tissues of the middle turbinate region, and œdematous hypertrophies appeared, and later these assumed the form of polypi. A peculiar hypersensitiveness of the

nerves allowed of such results. This condition might be inherited or acquired; but in either case there seemed to go hand in hand with this a thinness or flabbiness of the vessel walls and a vasomotor responsiveness to irritation, which made possible the explosions which were the bane of the existence of these afflicted mortals. This peculiar condition of the vessel walls might be the inherent peculiarity of the neurotic subject. Such a theory would account for his neuralgias, headaches, asthmas, dyspepsias, etc., all of which were at the start nothing but vasomotor explosions. Frequent repetition of the latter might lead to a permanent relaxation of the vessel walls, and thus result in organic disease. In the main, the ethmoidal lesions were of an œdematous nature. Asthma was rare with atrophic disease; the lesions, therefore, were hypertrophic in character, and at first confined to the mucosa. In a series of sixty cases of asthma, purulent ethmoidal disease was present only three times. Disease of the bony structures without purulent conditions occurred some six or eight times, and was here due to polyp formation. The disease in the mucosa always preceded that of the bone. Spurs and deviations of the septum tended to keep up middle turbinate disease, and increased the possibility of pressure. Hence the immediate question to be solved was how to explain the occurrence of the œdematous hypertrophies. Some cause might produce congestion of these, with consequent increase in volume and of vasomotor sensibility. These congestions were more stormy and more often repeated than in simple hypertrophy, and stretching of the venous trunks occurred. In simple hypertrophy and in non-neurotic subjects the veins were well supplied with muscular coats, and soon contracted again to their normal size: but given locally in one small area, or throughout the whole membrane, vasomotor ataxia or deficiency in the amount of muscle fibre, such as is inherent to the neurotic habit, and the result was inevitable permanent stretching and relaxation. As a result of all this, the intranasal structures became more and more œdematous. Then gradually polyp buds began to force themselves through the weakened tissue; their formation was favoured by pressure and contact areas. If, at the same time, the bronchial apparatus was diseased or susceptible, any irritant, such as the recumbent position, night air, etc., stimulated the sensitive nerves in the œdematous areas, and induced an increased flow of blood to the part. Some swelling of the bronchial mucosa also took place, which stimulated the pneumogastric filaments and produced a disturbance in the vasomotor equilibrium. Our asthmatic patient was then in the toils. If we could remove pressure in the nose, we could remove

one great excitant of this train of phenomena; but when intranasal treatment did not effect this happy result, it might be that even the slightest irritant became sufficient to cause bronchial spasm without there actually being any pressure on the contact areas. Of course, there were many asthmatics who did not have this nasal type of the malady. Even here great relief was often afforded by intranasal treatment. These people suffered after excesses of any kind from an impaired kidney, rheumatic onset, or the recurrence of a menstrual period; but in all the explosion in the bronchi was doubtless through the agency of the vasomotor system. Many cases baffled us entirely, but oftentimes our reward came by the discovery of some etiological factor quite outside of our ordinary conception of the causation. Occasionally change of environment, and that alone, sufficed to cure the patient. The deduction, therefore, was plain, that when treating many of the pathological conditions of the nose, whether asthma existed or not, we should look outside of the latter organ, and even outside the body, for the causes which led up to them.

Clinical Aspects of the Subject. This topic was treated by Dr. E. FLETCHER INGALS, of Chicago.

Asthma in association with polypi was not so common in his experience as seemed to be the case with others. Many persons suffered when riding behind horses or when near a stable; they could ride behind oxen or on a wheel without trouble. In three of his cases, the patients had referred their distress in breathing to one side of the chest only, and they had unilateral lesions in the nose corresponding to the side affected. One patient suffered when living on the ground-floor of a house, but was relieved by sleeping in the sixth story. A girl who suffered in a certain house was cured by going to live in the same kind of house six blocks away. Another patient, who suffered in one part of a certain house, was relieved by moving his sleeping quarters to another part of the same house, but which was built out of another material. Some persons suffered while in town, but not when in the country. He had seen some relief from the inhalations of a solution of 3 per cent. cocaine, with 5 per cent. of sodium nitrite. This probably caused a reduction of the swelling in the bronchial mucosa.

Treatment. This was discussed by Dr. F. H. BOSWORTH, of New York.

He said that this whole question turned upon the matter of the respiratory function of the nose. The bronchi were only air-conductors, but a relation undoubtedly existed between their mucosa

and that of the nasal passages. The true condition in asthma was not a spasm, but a vasomotor paresis; but behind the polypi, the polypoid degeneration, and the œdematous hypertrophies was an ethmoiditis. The former indicated it, and were its symptoms. Polypoid degeneration of the middle turbinate was pathognomonic of a similar condition in the ethmoid. The cells of the latter burrowed into the turbinate, so to speak, and became its outlying boundary; or, again, they might crowd the turbinate out against the septum, but not hollow it out. The trouble was that the anterior and posterior ethmoidal cells became occluded by mild inflammation, as from cold. This was one of the adventitious results of chronic inflammation of the nasal mucosa. In the ethmoid cavities this change took on an œdematous character, and intracellular pressure caused distension. Now came the neurotic symptoms. Probably the vasomotor centres for this division of the body were not far from the ethmoid. The indication, then, was to cure the ethmoiditis. We must relieve the intracellular pressure and break down the honeycombed mass. The operation must be radical; the removal of polypi was not enough. We must uncap the eggshell-like ethmoid and remove the points of contact, principally because they encroached upon the nasal lumen. Personally, he did not find the curette, forceps, or gouge satisfactory; he preferred to use small burrs, rounded and ovoid. We should burr down, then stop, and use the burr as a probe; burr down again, and so continue until we had established free drainage. He had never had bad results from this procedure. He formerly believed that if cocaine did not relieve the asthmatic seizure, an intranasal operation was useless, but he had modified this view. Purulent ethmoid disease did not give asthma, but inflammatory disease did. Many colds in the head, so called, were doubtless acute ethmoiditis.

Dr. E. L. SHURLY opened the general discussion, saying that the question was a difficult one to settle, owing to the complex physiology of the vaso-motor system. We should go further back than ethmoiditis and œdematous rhinitis. Recent observations had shown the existence of fine filaments from the cranial nerves and spinal centres, and that they were conducting cables, having in the same strand nerve channels for various functions. In different animals and in different individuals of the same group there was a difference in the arrangement of those branches connecting the nerve trunks. These anatomical variations might explain the differences in various individuals. Again, the nose was the seat of the olfactory sense, though in man this was very rudimentary.

Hyperæsthesia might result from breaks in the insulation, so to speak, in these various sensory filaments. We must divide our asthma cases into those which were due to local disease, and those due to psychical causes. He did not believe that the bronchi were merely air-conduits: there was a special arrangement of the adenoid tissue in them about which we knew but little. The cilia in the bronchi had an important office in expelling secretion. In his experience the majority of asthmatic cases were not accompanied by sensible derangement of the nose.

Dr. J. N. MACKENZIE said that the primal course of asthma did not reside in any special peripheral organ, but in the individual himself. The area of nerve explosion depended on the seat of the local pathological process. Irritation might come from a peripheral organ, as the nose: a distant organ, as the uterus; or from some systemic dyscrasia, as gout or rheumatism. Contact areas or pressure points cut no figure in this theory. Nasal cough might come from atrophy as well as from hypertrophy. The explanation of all these facts was not to be found in alterations of the nasal or bronchial function, for all of the theories thus far advanced failed to come up to the requirements of a logical hypothesis. All polypoid degeneration was not due to ethmoid disease, as could be proved by both clinical and pathological data. In treating these cases, it is useless to temporize with the curette: the forceps and gouge had been useful in his hands. It was often advisable to remove the anterior end of the middle turbinate, and this could readily be done with the snare.

Dr. MAKUEN said that asthma depended upon faulty nerve and muscular action, which might arise from any one of a thousand causes.

Dr. THOMAS HUBBARD called attention to the autotoxæmia theory, the importance of which he thought was underestimated. This might be of two types, gastro-enteric infection and defective elimination.

Recurrence of the Tonsils after Excision: A Case of Hysterical Larynx. This was a paper by Dr. F. E. Hopkins, of Springfield, Massachusetts. The particulars of these cases will be found in *The Laryngoscope* for February, 1899, page 97. Under the first heading, Dr. Hopkins gave a *résumé* of the teaching upon the subject from the literature of modern laryngology.

Wednesday, May 24.—Closing Session.

The session opened with a general discussion of Dr. Hopkins' paper upon the subject of the recurrence of the tonsils after excision. Dr. FARLOW said that a partial removal might leave behind diseased

tissue, especially in the lower prolongation of the organ, which was its hardest part. Friction of the tongue at this point might set up irritation which would lead to recurrence. The instrument usually employed was the guillotine, but the ideal instrument was one which would get in between the faucial pillars, anterior and posterior. The borders of the pillars were not the landmarks of the amount of tissue, but the bulk of the tissue itself. He preferred in many cases the scissors and punch. In many young adults there was developed the plica triangularis, or fold of tissue running down across the anterior portion of the tonsil, which was often mistaken for a part of the faucial pillar itself. It should be removed along with the tonsil.

Dr. NEWCOMB said he thought that in institution patients recurrence was favoured by the fact that they were obliged to return to the same general bad environment which had been such a potent factor in the development of the original disease.

Dr. WOOLEN said that a tonsil could not return if it was once removed. He looked upon the tonsil as upon a wart or papilloma, removal of which might or might not be necessary. He had given up the use of the word "removal" in this connection, and used "enucleation" instead. Enucleation could be done with the guillotine if properly constructed. He preferred the French instrument with the fork removed. The tonsil was at the same time lifted from its bed with the vulsellum. The nubbins of tissue left behind in imperfect removal might excite a later quinsy. He was accustomed to test the tonsil after removal by passing a blunt probe down to the bottom of its crypts. If he found a solid bottom, he felt that he had done a complete operation, but if the probe passed all the way through the mass removed, he felt that he had not gone deeply enough.

Dr. D. BRADEN KYLE said he would look upon a recurrent tonsil as purely pathological. It was a benign hyperplasia. It was the large, soft, spongy tonsil which was apt to recur. Recurring masses were more tumours than tonsils, and were to be regarded as on the order of adenomata.

Dr. MAKUEN dwelt upon the importance of dissecting away the faucial pillars from the tonsils, and had constructed a special set of knives for this purpose.

Fibro-Lipoma of the Base of the Tongue. This was a report of a case by Dr. E. FLETCHER INGALS, of Chicago.

His patient was a farmer, aged twenty-eight years, who for three or four years previous had suffered from difficulty in speaking,

swallowing, and breathing. Some time previous to his coming under observation, the cautery along with scissors and snare had been applied with some relief. For the last two months all the symptoms had been aggravated, especially dyspnoea on lying down. On examination a smooth tumour with congested surface could be seen situated in the laryngo-pharynx, apparently attached to the right two-thirds of the tongue and the right pharyngeal wall. It seemed to be of a fibrous nature. Removal with the cold-wire (No. 5) snare was attempted, but the wire broke three times. A uterine écraseur carrying a No. 8 wire properly bent proved to be the ideal instrument. One large mass, measuring from 1 inch to $1\frac{1}{4}$ inches in its various diameters, was removed at the first sitting, and later other smaller masses were removed. Some were fibrous, some fatty, and others were of the mixed type. Attachment was found to be to the right side of the epiglottis, the right pharyngo-epiglottidean fold, the right side of the pharynx, and possibly the base of the tongue. The patient had been seen that very day, and it was noted that there was an adhesion between the epiglottis and the right side of the pharynx and the base of the tongue. This would prevent the epiglottis from shutting down over the larynx during deglutition, but there was no difficulty in swallowing.

Dr. WOOLEN said he had seen a similar case. The wire had been slipped over the growth several times, as he had shown the case to students to demonstrate the mode of removal. When operation was finally attempted the patient suddenly ceased to breathe. After resuscitation the attempt was again made, and just as the wire was tightened cessation of breathing again occurred, and this time resulted fatally. No anæsthetic, local or general, had been used. If such had been the case and death had ensued, it would have been attributed in all probability to the anæsthetic.

Confined Suppuration of the Frontal Sinus with Spontaneous Rupture, Including the Report of a Case. This paper was read by Dr. D. BRADEN KYLE, of Philadelphia.

The patient was a woman, aged sixty years, who was seen first in January, 1898. Her complaint had begun a short time before with an initial fulness at the inner angle of the left orbit and a profuse nasal discharge. The face was swollen on the same side, and there was a slight tenderness. She had an influenza about this time, but this complication did not seem to increase any of the original symptoms. Two months later there was an increase in the size of the orbital swelling, and finally pus appeared through an opening on the forehead a little to the left of the median line.

Dr. Kyle had been unable to find any case identical with his own in all particulars. Several closely resembled it, and brief notes from their clinical histories were given.

The Importance of Septa and Pockets in the Antrum of Highmore with Reference to Operation. This was a paper by Dr. JOHN O. ROE, of Rochester.

He said that too little consideration had been paid to the anatomical details of this cavity. Four features should always be taken into consideration with reference to operation: the position of the sinus; its size, shape, and conformation; the thickness of its walls, and the relation to it of the roots of the teeth. He exhibited a series of skulls which had been prepared to illustrate these points. He also exhibited an antrum-searcher, which consisted of a flexible wire spring with probe point. It ran in a cannula, and could be extruded from the latter after it had been passed into the antrum. In this way it was possible to get a very accurate idea of the interior of the cavity even through a very small opening.

Dr. MACKENZIE did not think that septa often interfered with operations upon the sinus. He would operate only in extreme grades of inflammation. He would also call attention to the fact that the ostium maxillare might be above and posterior to its normal site. In such case the pus might appear up in the naso-pharynx. Politzerization of the sinus through the ostium would often relieve the pain and enable us to determine its exact site. As to drainage-tubes, he thought that they were often pus-producers.

Dr. ROE, in closing the discussion, said that he preferred a fine saw for enlarging the opening in the antrum after it had been penetrated. Gouges often splintered the bone.

"Taking Cold." This paper was read by Dr. G. V. WOOLEN, of Indianapolis.

He reviewed the extant theories upon the subject. External influences were reflected upon internal surfaces, thereby causing nutritional disturbances. The latter acted by producing deficient calorification. Persons who habitually took cold frequently had a subnormal temperature, as low at times as 95° F. They appeared as a rule properly nourished, but this subnormal temperature might explain much of their indefinite malaise. In this condition of deficient body heat there was defective hæmatosis, which probably acted through the vasomotor system. The condition was frequently set up by improper care as to bathing, etc., during the first week of life. It might be the reflection of hereditary syphilis in the third or fourth generation. If a child passed into adolescence without

acquiring the habit of taking cold, he regarded it as safe for life. Nasal stenosis might also lead to defective hæmotosis and low body temperature.

Dr. GOODALE called attention to the influence of micro-organisms in producing what we call a cold. They acted through the adenoid or lymphoid tissue. The symptoms of a cold were those of a bacterial infection. In moderate cases the staphylococcus, and in severe cases the streptococcus, predominated.

Dr. BOSWORTH said that the onset of a coryza was frequently too quick to allow of micro-organisms having anything to do with the case as causative factors. Acute rhinitis was a manifestation of a general systemic disturbance. The regulation of the function of the skin was of the utmost importance. Prophylaxis could be summed up in two words—proper clothing and the cold bath.

A Report of the Operative Treatment of Several Cases of Frontal and Maxillary Sinusitis. Dr. FRANK WHITEHILL HINKEL, of Buffalo, contributed a paper which gave the histories of one case of frontal and three cases of antral disease.

The first was that of a man, aged thirty-eight years, who had influenza in February, 1898, with severe pain over the left eye, followed by offensive purulent discharge from the left naris. He came under observation seven months later with persistence of the discharge. Pain and tenderness over the eyeball were at times present. Examination showed disease of both the frontal and maxillary sinuses. The alveolus was opened and irrigation begun, which nearly stopped the nasal discharge, but not quite. Some weeks afterwards the patient reported an increase of symptoms referable to the left frontal region, and opening of the sinus was recommended. The operation was done in January of the present year, and the sinus was found to be filled with greenish pus. It was thoroughly irrigated and its walls were curetted. The fronto-nasal canal was enlarged, and a strip of iodoform gauze was introduced into the nasal chamber through the enlarged infundibulum, as suggested by Bryan. The external wound was closed by silk sutures. After suturing the wound was dressed with cotton-pad and bandage. Dr. Hinkel said he preferred this to any form of collodion dressing, as the difficulty of securing good union after evacuation was increased by any dressing that confined the exudate about the wound and prevented evaporation. The drain was taken out on the third day and the stitches were removed on the sixth. Recovery was uneventful and the patient was permanently cured. The points of interest in the case were the masking of the primary

frontal empyema by the signs and symptoms of the secondary antral abscess, the persistence of the antral discharge in spite of the drainage and cleansing, and its immediate cessation as soon as drainage of the frontal sinus was secured.

Dr. HINKEL also reported three cases of antral disease. He followed the Caldwell-Luc method exploited in the paper by Dr. Roaldes. He found the hæmorrhage following the gingivo-labial incision to be lessened by the injection of a 1 per cent. solution of cocaine beneath the mucosa just as the anæsthetic was about to be administered. In one case in which he had been treating the antrum through a cannula beneath the inferior turbinate, he was able to reduce the hæmorrhage that was so profuse when the antrum was opened, by injecting into it just before the operation about one drachm of the solution of suprarenal extract. The limitations of this operation for antral disease, and the proper choice of cases for its performance, would be facilitated by the reports of its results, whether successful or otherwise. Dr. Hinkel had found the introduction of the drainage-tube to be the most difficult in the operation. To facilitate this he had had made a modification on a small scale of Bellocq's cannula. Introduced into the nose with the probe point thrust upward and forward into the antrum, it readily brought into reach the ligature, to which the drainage-tube or strip of gauze could be attached, and then drawn through the opening in the nasal wall and out at the nostril. The suturing of the gingivo-labial incision did not seem, according to Dr. Hinkel's experience, necessary. It was difficult to keep the stitches already inserted from being somewhat torn out during the later stitching, on account of the manner in which the parts must be drawn upon to secure access to the lips of the wound. The parts coapted readily without stitches, and there was little motion at this point. The wound did not need to be disturbed if the patient was fed upon soft food, care being taken to use the opposite side of the mouth in eating, and to avoid violent blowing of the nose. Under these precautions, healing took place readily, as shown by the cases narrated.

During the Congress the following additional papers were read by title: "Dermoid Cyst of the Nose," by Dr. H. S. Birkett, of Montreal; "Atrophic Rhinitis, with Report of Cases," by Dr. James E. Logan, of Kansas City; "Tuberculosis of the Pharynx, with Report of a Case in a Child," by Dr. T. Melville Hardie, of Chicago; "Syphilis of the Antrum of Highmore," by Dr. H. L. Wagner, of San Francisco; "Report of Two Cases of Accessory Thyroid Gland at the Base of Tongue," by Dr. A. W. Watson, of Philadelphia; "Remarks on Intra-Nasal Operations," by Dr. W. F.

Chappell, of New York; "Pemphigus of the Larynx," by Dr. J. H. Bryan, of Washington; "The Early Diagnosis of Aneurism of the Aortic Arch," by Dr. William Porter, of St. Louis; "Report of a Case of Abscess of the Frontal, Ethmoidal, and Sphenoidal Sinuses; Meningitis; Death," by Dr. J. H. Bryan, of Washington.

This closed the scientific proceedings of the Congress. The next meeting of the Association will be held at Washington in connection with the Triennial Congress of the Association of American Physicians.

During the executive sessions of the Congress, the following gentlemen were elected to active fellowship: Dr. F. C. Cobb, of Boston; Thesis, "Peritonsillar Abscess." Dr. J. F. McKernon, of New York; Thesis, "A Contribution to the Technique of Modern Uranoplasty." Dr. Max Thorner, of Cincinnati; Thesis, "Direct Examination of the Larynx in Children."

The election of officers for the ensuing year resulted as follows: President, Dr. Samuel Johnston, of Baltimore; First Vice-President, Dr. T. Amory De Blois, of Boston; Second Vice-President, Dr. Moreau Brown, of Chicago; Secretary and Treasurer, Dr. Henry L. Swain, of New Haven; Librarian, Dr. J. H. Bryan, of Washington; Member of Council, Dr. William E. Casselberry, of Chicago.

Abstracts.

NOSE, Etc.

Stewart, W. R. H.—*Case of Double Empyema of the Frontal Sinus with one Infundibulum.* "Lancet," December 10, 1898.

A patient, twenty-nine years of age, consulted the author two years ago for stuffiness of the left side of the nose, with a discharge of some duration, and occasional severe frontal headache. Examination showed polypi with an abundant milky-white discharge on the left side. The right side was apparently normal. There was no bulging or disfigurement of the face. The radical operation was explained to the patient, who, however, would not have it done, preferring the milder mode of treatment. The polypi were therefore removed, together with the anterior ends of the middle turbinates. A free discharge remained, but all sense of stuffiness and headache disappeared. About eight months ago, however, she wished for the major operation, as the discharge continued so profuse. All the symptoms pointing to unilateral disease, the author operated through the brow incision with a small trephine. The bony septum between the sinuses was found to be situated well over to the left side, and was complete with the exception of a small hole posteriorly, through which pus was oozing. The septum was removed, but there was so much granulation tissue in the right sinus

that the incision was continued down the ridge, across the top of the nasal bones (taking care to avoid the spot where the spectacle-frame might rest), and up the other ridge, and the flap was turned up. The bone was then chipped away with forceps until there was space enough to thoroughly clear out the right sinus. The reason why there was no discharge into the right side of the nose was then explained, for with the finest probe no sign of an infundibulum could be found on that side. The sinus discharged through the opening at the back of the septum into the left infundibulum. The usual funnel-shaped indiarubber tube was passed through this into the nose, and the wound was closed. The patient did very well.

The points to be noticed in this case are: (1) The absence of the infundibulum on the right side, which led to the belief that the right sinus was healthy and did not need interference, there being sufficient disease on the left side to cause all symptoms; and (2) the amount of room gained, and the very small apparent scar left by the incision, which the author has since employed with success in more than one case of double empyema.

StClair Thomson.

Mahu.—*De la Courbure Automatique à Distance des Anses Flexibles.*
"Ann. des Mal. de l'Or.," November, 1898.

In seeking for a method of obtaining a suitable curvature of the snare loop for the removal of moriform bodies, the author has devised a very ingenious instrument. The well-known method of pinching the loop into a shallow curved figure before introduction is one which has its limitations, for where the nasal fossæ are at all narrow, it is impossible to give more than a slight inclination to a loop sufficiently large to embrace a full-sized moriform hypertrophy. The ideal to be aimed at is to turn the loop after introduction at a right angle to the snare tube. The author has attacked the problem by applying torsion to the free ends of wire. It is easy to convince one's self by a simple experiment that torsion in opposite directions of the two free ends, as they present at the handle-end of the snare tube, causes the snare loop to leave its original plane for one inclined to the tube at an angle which varies with the degree of torsion. Without going into the mathematics of the matter, one may supply one's self with a simple explanation by dividing the loop in the middle, and noting the manner in which the cut end must move when torsion is applied as before.

The author has not only worked out the theory in a scientific manner, but has devised an instrument (built on the general lines of a Blake's snare) which provides the necessary torsion by automatic means.

The actual device will be more readily understood by reference to the figures given; suffice it to say that the torsion is produced after the manner of an Archimedean drill by the passage of one half of the sliding carriage along two cylindrical clamps, in the form of right and left handed screws, which grip the proximal ends of the snare wire.

One may describe the action in a few words by saying that the sliding carriage is divided into a front and back portion. The back portion holds the two screw-like clamps, while the front portion is provided with finger-loops. When the front portion is drawn back, it commences by causing an axial rotation of the clamps and torsion of the wire; having reached the back part of the carriage, the latter is unlocked automatically, and drawn home in the usual manner. A

description which leaves nothing to be supplied by the imagination would be too lengthy for these columns. A glance at the figure in the original will make the instrument and its working easily understood.

Waggett.

LARYNX.

Lodge, Samuel, Junr.—*Bilateral Paralysis of the Laryngeal Abductors successfully treated by the Removal of the Isthmus of a Bronchocele.* "Lancet," February 4, 1899.

The patient was a schoolboy, aged fourteen, with a seven years' history of difficulty of breathing. He was found to have double abductor paralysis, which by exclusion was referred to enlargement of the thyroid gland. Iodide of potassium and thyroid extract were both given without affecting the size of the goitre. The isthmus of the thyroid gland was therefore removed. There was no immediate improvement, and even six months afterwards the boy was reported to be in the same condition. Shortly afterwards, however, it was noticed that the stridor during sleep had ceased. The boy was then able to run as well as his schoolmates, and ten months after the operation the larynx was found to be quite normal; the goitre had disappeared, and, in spite of his being a year older, the patient's neck only measured 13 inches, instead of the 14 inches it measured before the operation.

The only case recorded in British medical literature which the author has been able to discover on almost all fours with this one is related shortly in the late Sir Morell Mackenzie's classical work.* The patient, "aged fifteen years—a tall lad—when perfectly quiet could breathe fairly well, but on the slightest exertion he experienced great dyspnœa, and during sleep made a loud noise in his breathing. On examining the neck, a moderate-sized but very hard bilateral goitre was perceived, and on using the laryngoscope, the abductors of the vocal cords were found to be paralyzed on both sides. The adductors did not seem to be at all affected, and the voice was perfectly normal. By varied treatment extending over several months, the bronchocele was cured and the action of the vocal cords became natural." In this case the isthmus of the thyroid does not appear to have been large. Sir Duncan Gibb was first led to suggest the feasibility of removal of the isthmus by observing "several cases of enlargement of the thyroid gland affecting one or both of the lateral lobes and implicating the isthmus."† In 1870 a post-mortem examination on a young man enabled him to prove that in some cases, "if not relieved by treatment, the lateral lobes, which in their enlargement sometimes spring from the isthmus itself, may extend on either side of the trachea itself and completely encircle it. The consequence of this is that the tube is compressed laterally and its form becomes oval, with a very narrow passage to breathe through, which sooner or later ends fatally." In 1874 Mr. Holthouse operated on two females for Sir Duncan Gibb with the happiest results. In each case the trachea was greatly compressed, and relief was speedily manifested. In 1883 Mr. Sydney Jones reported in the *Lancet* a case of "enlargement of thyroid gland in a male producing pressure on the trachea and serious attacks of dyspnœa;

* "Diseases of the Throat and Nose," vol. i., 1880, p. 444.

† The *Lancet*, January 23, 1875, p. 120.

removal of isthmus; atrophy of lateral lobes; cure.”* In this case the patient was a labourer, aged eighteen years. The duration of symptoms was for seven or eight years. The patient was quite well in less than two months. Mr. Sydney Jones's brilliant series of cases have shown us that, in the words of Sir William MacCormac, it is “a method of treatment which is comparatively simple, easy of execution, and promises excellent results in suitable cases”; and, further, that where the same symptoms are produced by an innocent enlargement of the thyroid without a hypertrophied isthmus, removal of portions of the lateral lobes encroaching mesially on the trachea may be done quite as safely and with the same beneficial results as in those cases where the isthmus alone is excised.

In all the cases referred to, the author has been unable to find any reference to laryngoscopic examination. The pressure, judging from the speedily successful results, must have respected the recurrent laryngeals and the “scabbard-like” condition of the trachea readily accounted for the whole of the dyspnoea, whereas in this case six months had elapsed before the patient was obviously much better. Nor could we reasonably have expected more speedy results, seeing that laryngoscopically the dyspnoea could be readily explained by pressure on the recurrent laryngeals producing the abductor palsy.

StClair Thomson.

E A R.

Nicoll, James.—*Uncommon Cases of Operation on the Brain.* “Lancet,” October 29, 1898.

One of these cases is interesting as showing the origin of a malignant tumour in the middle ear. The symptoms simulated temporo-sphenoidal abscess. An intracranial portion of the tumour was removed, with relief to the pressure symptoms. The patient died 2½ months afterwards.

StClair Thomson.

Bousfield, E. C.—*Diphtheria Antitoxin in Private Practice.* The “Lancet,” December 10, 1898.

This is an earnest appeal to use antitoxin immediately in every clear or doubtful case of diphtheria, as the author feels assured that in no other way is it possible to seriously diminish the mortality. Even the delay of sending the cases into hospital, before administering the serum, leads to a decided increase in the mortality.

StClair Thomson.

Henke, R. (Clausthal).—*Excess-Malformation of the Auricle.* “Monatsschrift für Ohrenheilkunde,” February, 1899.

In a case described there was an apparent doubling of the upper part. It was in reality a widening of the scaphoid fossa between the helix and the anthelix, and its division into two depressions by an abnormal ridge corresponding to the upper crus of the anthelix, but abnormally wide, and turning backwards to a notch in the helix higher than the Darwinian tubercle. There was also an excessively long lobule, and, curiously, one of the patient's thumbs was double.

Dundas Grant.

* The *Lancet*, November 4, 1883, p. 900.

Burnett, Charles H.—*Further Considerations of the Mechanism of Ear Vertigo, and its Relief by Removal of the Incus.* "American Journal of Medical Sciences," April, 1899.

Ear vertigo may be due to disease in the external, middle, or the internal ear. There is little or no evidence that apoplectiform lesion of the labyrinth ever occurs without previous catarrhal disease in the middle ear. Middle-ear vertigo is due primarily to chronic catarrhal disease in the tympanic cavity, and the consequently altered condition and mechanism of the ossicles. External-ear vertigo is due to disease in the external ear.

All these three forms present very similar symptoms, and the fact that no loss of consciousness occurs in either of them differentiates them from epilepsy, alcoholism, and apoplexy.

Vertigo also comes from a tumour in the tract of the auditory nerve and to traumatism, but it is then more or less constant, and rarely if ever as violent as in the pathognomonic paroxysms of true ear vertigo.

Ear vertigo is due to irritation emanating from some part of the auditory apparatus and conveyed through the ampullæ of the semi-circular canals to the motor filaments of the auditory nerve, the peduncles, and the cerebellum; hence the disturbed coördination called ear vertigo. Such irritation may be excited by undue retraction and impaction of the stapes in the oval window, and consequent compression of the labyrinth fluid and the ampullæ, as in the late stages of chronic catarrhal otitis media. If engorgement of the labyrinth and pressure upon the ampullæ from within the cranium be present, as in parotitic metastasis, such pressure-irritation may be increased at times by sudden retraction and impaction of the chain of ossicles and the footplate of the stapes, as occurs in sudden movements of the head or in an accommodative contraction of the tensor tympani, unnoted by the normal labyrinth, and a paroxysm of ear vertigo takes place. With the labyrinth unduly engorged, as in a case of metastasis, ear vertigo occurs if a sudden increase in the quantity of labyrinth fluid takes place when the stapes is held too firmly in the oval window to yield to this pressure upon its footplate from within. This amounts to the same force as sudden impaction of the stapes, since the labyrinth space is compromised by the failure of the stapes to move outward, and ear vertigo results from pressure-irritation in the ampullæ. The latter process is most likely to take place in the late stages of chronic catarrh of the middle ear; but in both instances the process is essentially a mechanical one—viz., a disturbance in the muscular tension and mobility of the auditory apparatus in the middle ear, and we have therefore to deal with a mechanical disease.

The paroxysmal nature of ear vertigo can be explained only by assuming that it is due to temporary increase in retraction and impaction of the stapes in the oval window, or temporary engorgement of the labyrinth from within, without compensatory yielding of the stapes, and a consequent pressure on the labyrinth water and the ampullæ. That such is the mechanism of ear vertigo is demonstrated by the curative effect of removal of the incus and liberation of the stapes. Why true ear vertigo occurs paroxysmally cannot be easily explained, but Dr. Burnett suggests that it is due to varying degrees of tension in the chain of ossicles or in the labyrinth fluid. The latter, being a part of the lymph system of the subarachnoid space (Hasse), must be subject to varying conditions of tension, as are the ventricles of the brain or the cerebro-spinal fluid. Ordinarily the compensatory yielding of the

fenestræ of the labyrinth toward the drum cavity is sufficient to prevent undue pressure in the ampullæ and vertigo. If, however, these yielding points are stiffened as in chronic middle-ear catarrh, in which there is always more or less retraction and impaction of the stapes and thickening of the membrane of the round window, then either an increased quantity of endolymph or perilymph, or both, emanating from the cranial cavity, or a spasmodic or further retraction of the chain of ossicles and impaction of the stapes from tympanic causes, as occur in chronic aural catarrh, is competent to excite a paroxysm of ear vertigo.

If the liability to these paroxysmal impactions of the stapes can be prevented, and greater freedom given to the movement of the stapes outward when its footplate is pressed upon from within, ear vertigo from the causes mentioned can be prevented. Such immunities can be granted by removal of the incus and consequent liberation of the stapes. In twenty-seven cases of ear vertigo freedom from incapacitating attacks of ear vertigo has followed the operation. This relief has not always come at once, as long a time as six months having elapsed in some instances before entire relief has been obtained; but in some of the worst cases immediate relief has followed the removal of the incus. In a few cases the tinnitus has been entirely relieved, and in the rest of the cases greatly diminished, by the operation. The hearing, uniformly very defective in true ear vertigo, has been uninfluenced by this operation.

B. J. Baron.

THERAPEUTICS.

Legrand.—*Mixture of Eucaïn and Cocain.* "Münchener Medicinische Wochenschrift," No. 21, 1899.

He recommends :

Gelatine	...	...	...	2.0
Natr. chlorat.	...	...	...	0.7
Acid. carbol. crud.	...	...	..	0.1
Eucaïn muriat.	...	...	...	0.7
Cocain muriat.	...	...	...	0.3
Aq. dest.	...	...	ad.	100.0

This mixture produces sufficient anæsthesia for every kind of operation. Small quantities should be kept in glass tubes after being sterilized. The gelatine shows at once the presence of infection by becoming opaque; it also reduces absorption, and acts as a hæmostatic. At the ordinary temperature the mixture is gelatinous, but becomes fluid at 20 to 22° C. Dilatation of bloodvessels due to eucaïn is counteracted by the cocain.

Guild.



THE LATE PROFESSOR KARL STOERK.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

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THE LATE PROFESSOR KARL STOERK.

OBITUARY NOTICE.

WE regret very much to announce the death of Professor Karl Stoerk, which took place in Vienna on the 13th of September. Buda Pesth and Vienna are historically associated with the earliest clinical applications of the laryngoscope, and Professor Stoerk's name is therefore particularly interesting, inasmuch as he was a student of both places, and a graduate of the latter. Forty-one years ago Professor Stoerk became a Doctor of Medicine of Vienna University, and since then he did much as an enthusiastic clinical observer, skilful operator, able teacher and writer to build up the great reputation for which the Vienna Medical School of Laryngology has been so famous.

Associated as he was with Türck, he had an opportunity of giving some of the first demonstrations upon treatment controlled by the use of the laryngeal mirror, and as early as 1860, following the steps of Czermack and Semeleder, he published important articles upon the newer art of rhinoscopy. Speaking about œsophagoscopy, Morell Mackenzie says the older surgeons did not appear to have endeavoured to overcome the difficulties, and the first attempt to examine the gullet during life would seem to have been made by Semeleder and Stoerk in 1866. The idea of the instrument seems to have originated with the former, who submitted himself to the latter for experiment. In 1881 Professor Stoerk described a new instrument for the purpose of examining the œsophagus, and

thus we see his name will always be associated with the earliest attempts to overcome the difficulties of examination of the gullet. These examples are but suggestions of his great ingenuity in devising new instruments or modifying the same, as every student in Vienna was familiar with the pages of the catalogues of the different instrument makers, describing sets of endolaryngeal and other instruments "nach Stoerk."

As might be expected from one who had the opportunity early in his career, and in the beginning of a new art, Professor Stoerk earnestly studied many of the affections of the larynx and neighbouring organs. So we find his early writings largely devoted to ordinary ailments, such as acute and chronic catarrh, and the term blenorrhœa of the mucous membranes of the nose, larynx and trachea is but an example of his careful and extensive investigations. It is impossible, however, to refer in detail to his many clinical observations and writings; suffice it to say that his name is familiar in the medical literature of every country where laryngology is taught. His skill as a teacher was universally recognised, and many men who were privileged to follow his clinic, now practitioners or teachers of laryngology themselves, are to be found in every part of the world. As an operator, Professor Stoerk deservedly excited the admiration of all his followers, and his methods and dexterity, whether in the nose, larynx or œsophagus could not be surpassed if equalled by any of his contemporaries.

His principal writings are: "A Work on Laryngology," published in 1872; "Klinik der Krankheiten des Kehlkopfes, der Nase und des Rachens," in 1876; "Klinik der Kehlkopfkrankheiten," in 1880; and his text-book on "Diseases of the Nose, Pharynx and Larynx," which has been lately published as part of Professor Nothnagel's great treatise on medicine.

Professor Stoerk graduated in 1858, and the year following became assistant physician to the general hospital of Vienna. In 1864 he became Privatdocent, in 1875 he was appointed Extraordinary Professor of Laryngology, and in 1894, when Professor Schrötter became Professor of Internal Medicine, Professor Stoerk succeeded him as Ordinary Professor of Laryngology in the same university.

DIMINISHED BONE-CONDUCTION AS A CONTRA-INDICATION FOR OSSICULECTOMY.*

BY DUNDAS GRANT, M.A., M.D., F.R.C.S.

WITH very few exceptions, all authorities in otology are agreed that under certain circumstances the malleus, incus, and membrana tympani, whether whole or incomplete, cease to be of use for the transmission of sonorous vibrations to the stapes, and even offer an obstruction to that transmission. Under such circumstances the question of their removal may be usefully considered, quite apart from the major operations required for the saving of life, and, indeed, the performance of ossiculectomy becomes a duty. Do such circumstances arise? Undoubtedly, as the result of adhesions arising from inflammatory changes either of purulent or non-purulent nature. In the former it is unusual for the malleus and incus to be rendered immobile without the stapes being rendered even more so, if we leave out of account the ankylosis of the malleus to the outer wall of the attic as the result of exhausted attic inflammation. The removal of the outer ossicles is not likely, then, to offer hope of much improvement in chronic non-suppurative inflammation, especially in view of the fact that, in addition to fixation of the stapes, there is in the worst cases an involvement of the contiguous parts of the internal ear.

The conditions following suppuration of the middle ear are more favourable, and we may have absolute immobility of the outer ossicles—or, at least, of the malleus—while the stapes is mobile in the highest degree, and even to an inconvenient extent. For instance, in a case under my care in which a radical mastoid operation has been performed without removal of the ossicles, the malleus is quite fixed and the incus has probably disappeared, but the stapes is perfectly accessible to sight and touch, so that its mobility can be affirmed. An artificial drum applied over it increases the distance for hearing the whispered voice from 5 inches to 5 feet. In this instance, were the malleus to interfere with hearing either by favouring the heaping up of débris or by preventing the application of an artificial drum, I should feel called upon to remove it.

If the outer ossicles are fixed, and hamper the movements of a presumably or possibly mobile stapes, their removal is indicated on

* Contribution to the Proceedings of the International Otological Congress in London, August, 1899.

account of the hearing-power, apart from other and even weightier considerations. Of course, we must not remove ossicles if our so doing is at all likely to make the hearing worse—that is to say, if these ossicles are of functional value. How are we to decide on this point? Professor Politzer has laid down the valuable practical rule that if the hearing is sufficient for the perception of the whispered voice at the distance of 1 metre there is a fair presumption that the ossicular apparatus is acting, and the ossicles should not be removed. Hearing for the whisper at the distance of 1 metre is, then, a very strong contra-indication against ossiculectomy. If the deafness is entirely or to a great extent due to concomitant disease of the internal ear or auditory nerve, it is obvious that the results, *qui* hearing, obtainable from ossiculectomy can be of little or no value. Diminished bone-conduction is therefore considered a contra-indication. As a general rule, this may be accepted without demur, particularly by those who are inclined to perform ossiculectomy in non-suppurative cases, because it argues a degree of fixation of the stapes and of involvement of the auditory nerve which removal of the larger ossicles cannot touch. In suppurative cases also, diminished bone-conduction suggests a labyrinthine complication, and, it may be, a tuberculous affection of the petrous bone, as without this the tendency is for the tympanic changes to bring about an increase of conduction through the bones.

The arguments are therefore very strong in favour of the rule laid down by Politzer as to diminished bone-conduction being a contra-indication even in post-suppurative cases. While subscribing most heartily to this view in the main, I hope to show that the rule is not without exceptions. In some instances the line between hearing sufficient and not sufficient for business is a very fine one, and a very slight improvement may make the difference which renders the sufferer fit to follow his avocation; and when the difference is on the wrong side of the line a breach of the above-stated rule becomes highly justifiable if it offers the chance of even a slight increase of hearing-power.

If we allow that the ossicles may hamper the conduction to the extent of 10 per cent., then their removal, restoring this 10 per cent., may make the difference between, say, 20 and 30 per cent. of hearing-power, whether the auditory nerve be answerable for some of the wanting 70 per cent. of hearing or not.

The following cases illustrate the attainment of improvement of hearing in a post-suppurative case after the removal of the ossicles, although there was diminished bone-conduction :

Case of Post-suppurative Deafness, with Diminished Bone-conduction, improved by Ossiculectomy.

Mr. G. M——, aged thirty-four, lecturer, came under my care in June, 1897, complaining of dulness of hearing in both ears, which in the right had lasted twenty-five years. In spite of treatment at the hands of a skilled aurist, no improvement had taken place, and the patient felt himself face to face with the necessity of resigning his appointment.

The right ear had been deaf for twenty-five years, but the left one was fairly good until February 1, 1897, when on waking up he found the ear to be almost entirely deaf. There was no nervous shock to account for this, no hemianæsthesia, no diminution of pharyngeal reflex, or other sign of hysteria. He had a trace of sugar in the urine, the patellar reflex was almost absent, and he could not stand so well on the left foot alone as on the right one. On the right side the watch was not heard in contact. The whispered voice was not heard at all. Rinne's test was "negative reversed," and there was distinct diminution of bone-conduction on the mastoid.

On the left side the watch could be heard at 2 inches. The whispered voice was heard at 1 foot. Rinne was "negative reversed," and on this side also there was a diminution of bone-conduction. The tuning-fork on the vertex was heard louder in the better ear.

On inspection, the major portion of the right membrane was destroyed, especially the antero-inferior segment. In the left ear there was a perforation of moderate size in the lower half of the membrane. He was treated with boracic and spirit drops, and after a couple of weeks his hearing-power was found to be more equable and somewhat better for class purposes.

He was slightly improved when an artificial drum was introduced, and pushed under the edge of the perforation up towards the right stapes.

I then considered that, with a view to facilitate the application of the artificial drum, it would be right to remove the ossicles, more especially as the patient complained of a fulness in the head, especially on the right side. The operation was performed, and for the moment the hearing in the right side was distinctly improved, to the extent that he could hear the whispered voice at 3 inches, and the fulness in the head disappeared; but the hearing-power afterwards diminished to some extent, remaining, however, better than it was at first.

The small supplement of hearing derived from the operation

on the right ear appeared to increase his total hearing-power to such an extent that he was able to carry on his classes instead of retiring, and at the end of the session he reported that he had had comparatively little difficulty in performing his work. In this case the trifling improvement seemed to be sufficient to make the difference between his following his avocation and giving it up, and so far to justify the exceptional use of the operation of ossiculectomy.

A confusion in the head from which he previously suffered entirely disappeared after the removal of the ossicles, and it may be that the improvement in the hearing was more or less directly the result of this.

I am indebted to Mr. MacLeod Yearsley for notes of the following case in which he performed ossiculectomy with beneficial results, in spite of the presence of diminished bone-conduction.

Case of Deafness following Suppurative Otitis improved by Ossiculectomy, although there was Diminution of Bone-conduction.

J. B——, a female aged forty, was first seen by Mr. Yearsley on July 8, 1898. She had been deaf to some extent since childhood, the left side being the worse. As a child she had discharge from both ears, but this ceased "some years ago." On the right side she was able to hear a watch at 3 inches instead of 60, and on the left side she could not hear it at all. In the left ear there was a large kidney-shaped perforation occupying the whole of the posterior and inferior quadrants. The ossicles were found to be fixed both to massage by the pneumatic speculum and to the probe. Ossiculectomy was performed on July 16, 1898. Previous to the operation the hearing had never been tested with the tuning-fork, owing to accidental circumstances.

On July 22 the bone-conduction on the left side was found diminished to the extent of about 10 per cent. Instead of not hearing the watch at all on the left side, she now heard it at a distance of $11\frac{1}{2}$ inches. A month later she could hear the watch on the left side at a distance of about 4 inches, and she stated that she could now hear conversation with greater ease than formerly.

In conclusion, I would summarize as follows :

The presence of the ossicles may interfere with the hearing power in post-suppurative cases in the following ways :

1. By being fixed themselves, and thereby making the stapes immobile.

2. By favouring the accumulation and retention of desquamative and exudative products which impede the movements of the stapes.

3. By preventing the application of a cotton-wool drum to the stapes.

Their removal is under these circumstances justifiable and desirable; if the hearing-power is less than for the whispered voice at 1 metre and the bone-conduction is good.

Even if the bone-conduction is diminished to some extent, a slight improvement in hearing may follow the operation of ossiculectomy. A very slight improvement in hearing may make the difference to the patient of being able to follow his employment.

Therefore, when hearing is so bad that the patient is unable to follow his employment it is justifiable to remove the outer ossicles and remains of the membrane, even though there is some diminution of bone-conduction.

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

LONDON, AUGUST 8 TO 12.

Discussion.

THE INDICATIONS FOR OPENING THE MASTOID IN CHRONIC SUPPURATION OF THE MIDDLE EAR.

THE discussion was opened by Professor POLITZER (Vienna), Professor MACEWEN (Glasgow), Dr. LUC (Paris), and Professor KNAPP (New York).

OPENING ADDRESS BY PROFESSOR ADAM POLITZER (Vienna).

Professor POLITZER said it was a happy idea of the Organization Committee to have put on the programme a discussion on such an important question. There was no question of otology which had acquired more actual interest than the free opening of the middle-ear spaces for chronic suppuration of the middle ear. Experience had shown that the free opening of the middle-ear spaces was of the most vital importance, by which they were able to save the life of the patient and prevent other consequences to the middle ear hurtful to the organism. The indications were generally acknowledged, and in most cases with well-marked symptoms the surgeons were likely to be in perfect agreement; therefore there could be but little new to say in reference to the indications. The chief point in that discussion would be to decide whether it was justifiable without well-marked symptoms to operate as frequently as some operators maintained. Professor Politzer then enumerated all the indications for the so-called "radical operation," giving after his own

experience a complete critical view on the subject, the details of which will be published in the Transactions of the London Otological Congress.

In his enumeration, he classified the indications in two groups—objective and subjective.

The objective indications were briefly :

1. Caries of the walls of the tympanum.
2. Granulations and polypi in the neighbourhood of the aditus, and recurring after removal.
3. Fistulæ opening into the mastoid cavities, and frequently leading to cholesteatoma.
4. Cholesteatoma.
5. Hyperostotic stricture of meatus.
6. Facial paralysis or paresis.
7. Painful swelling on the mastoid (indicating acute mastoiditis, fistula, cholesteatoma or sequestrum).
8. Obstinate long-continued fetid discharge, rebellious under all forms of treatment, especially when the perforation is in the postero-superior quadrant, and the remains of the membrane is adherent to the inner wall, and still more if pus, or especially crumbling masses of epithelium, can be sucked out by means of Siegle's speculum.

9. Symptoms of tuberculosis occurring in the course of chronic suppuration of the middle ear (the supervention of aural suppuration in the course of pulmonary tuberculosis is unfavourable for operation).

Further, high temperature preceded by rigor or oscillation of temperature, indicating sinus phlebitis or direct septic absorption. Also vomiting, with headache, and other brain symptoms, or changes in the fundus of the eye.

The subjective symptoms were :

1. Persistent or recurrent pain in the ear or mastoid process, especially with persistent and fixed pain in the parietal or occipital region, and increased by percussion, which frequently points to temporal or cerebellar abscess.

2. Vertigo, either permanent or intermittent attacks, which may be due to erosion of the external semi-circular canal, or extension of the disease to the interior of the labyrinth (as would be indicated by the usual tuning-fork tests for nerve deafness, and would call for a removal of the labyrinth, as advised by Jansen, over and above the original mastoid operation).

3. Well-marked brain symptoms, such as headache, heaviness, pressure, torpor, loss of consciousness, etc.

Operation was all the more called for if the objective signs were accompanied by any of the serious subjective symptoms, and the symptoms of serious brain complication, instead of being contra-indications, called for immediate operative interference. With regard to meningitis, it was now well recognised that the most pronounced symptoms of that disease might be due to a serous, as distinguished from a purulent form of meningitis, recovery from it being a frequent sequel to the thorough removal of the ear disease. Such symptoms, therefore, would not contra-indicate operation unless lumbar puncture showed the cerebro-spinal fluid to be infected.

Professor Politzer concluded that experience taught him that not rarely the clinical symptoms did not correspond to the pathological changes found during the operation in the temporal bone. Sometimes only insignificant changes, such as a small quantity of granulation tissue in the attic or antrum, were found in cases where he had performed the operation on account of dangerous symptoms. On the other hand, he found grave changes where before the operation he would not have expected them.

These circumstances rendered it more difficult to draw strict lines in regard to the indications, and there would always be cases in which some surgeons, on account of the impossibility of predicting exactly the pathological changes in the temporal bone, would hold that it was not advisable to wait for the appearance of well-marked symptoms, and decide to operate at once, while other surgeons would advocate more conservative methods. That many cases of the chronic suppuration of the middle ear could be healed by vigorous antiseptic treatment, by removing the granulations or cholesteatoma in the tympanic cavity and the attic, by partially removing the wall of the attic, had been shown by the daily experience of those surgeons who treated such cases by conservative methods. Although he was a strong advocate of the radical operation in suitable cases, he could not agree with those surgeons who performed it often for the mere purpose of the discharge—at least, until strenuous efforts had been made to stop it by other means. He thought that in these cases it was not justifiable to have recourse to an operation which, although not necessarily dangerous in the hands of a skilled operator, was still a serious one, especially when they considered (1) the many important structures in the vicinity which might be injured, (2) the possible permanent impairment of hearing in those who before the operation could hear fairly well, (3) the protracted healing process after the operation, which very often rendered the patient *hors de combat* for many months. It was his firm belief that these views would in

course of time receive general assent, when further anatomical researches and more extended clinical observations had cleared up those points about which at present their judgment was still in doubt.

OPENING ADDRESS BY PROFESSOR WILLIAM MACEWEN (Glasgow).

Professor MACEWEN said: Mr. President and Gentlemen,—I have to thank you for the honour you have conferred upon me by asking me to open a discussion on the indications for opening the mastoid in suppurative otitis media.

Instead of enumerating the individual indications for opening the mastoid, which may be found in more or less detail in most recent otological works, and which may require to be supplemented or reduced as our experience ripens, it is thought desirable to regard the subject from a broader basis, and one which may be found more generally applicable. The following forms a useful practical rule:

When a pyogenic lesion exists in the middle ear, or in its adnexa, which is either not accessible or which cannot be effectually eradicated through the external ear, the mastoid antrum and cells ought to be opened.

As there are many ways of opening the mastoid, some more, and many less complete, the observations made in this note cannot be equally applicable to all of them.

Some operators content themselves in "opening the mastoid" by sinking a narrow shaft into the antrum, through which they can inject fluid, and others perform a typical operation irrespective of the pathological condition revealed.

The author does not follow the classical operations of Kuster, Stacke or Schwartze, but operates by first opening the mastoid at the base of the suprameatal triangle. From that point he follows the pathological lesions anteriorly into the middle ear, especially exposing and carefully scrutinizing in all cases the attic of the antrum and tympanum, when, if found eroded, these plates are removed, along with the morbid contents of the middle ear. We then pass backwards and downwards, through the mastoid cells toward the sigmoid sinus, following the pyogenic erosions wherever they may lead in that direction, and when necessary exposing the knee of the sigmoid sinus. After opening the mastoid antrum and cells, the further procedure has a purely pathological basis; if the disease revealed be extensive, so must be the operation. The greater part of this operative procedure is performed by means of the rotatory burr, which is the safest instrument for such a

purpose. One of the first objects of the operation is to secure the patient against subsequent pyogenic extension to the brain on the one hand, and the cerebellum and sinus on the other; and this may be done with a probable certainty, as far as the two most frequent localities for brain and sigmoid sinus invasion are concerned. It is to such an operation (with its pathological basis) for "opening the mastoid" that the following remarks apply:

The ablation of the mastoid, while at once eradicating a suppurative process, chiefly located in the mastoid antrum and cells, affords at the same time ready access to the attic and inner wall of the tympanic cavity, and to the auricular extremity of the Eustachian tube. Immediately following the operation, one can initiate the formation of avascular tissue, and thus create an efficient barrier against pyogenic extension to the otherwise most accessible and most vulnerable parts of the brain, the cerebellum and the sigmoid sinus.

In persistent otitis media purulenta, the mastoid operation has at least three advantages over that of the treatment by way of the external auditory meatus: First, by exposing to ocular inspection all the affected area, and by thus enabling the operator to follow and eradicate all the recesses in the bone made by pyogenic invasion. In this way one does not act in the dark, as the whole pathological field is open to inspection. Secondly, by being able to secure asepsis. Thirdly, by raising an efficient barrier against pyogenic extension, between the most vulnerable parts of the brain and the sinus.

Indications for opening the Mastoid in Purulent Otitis Media.

1. There are many cases of purulent discharge of the middle ear, of such long standing, and so intractable to all remedies administrable through the external auditory meatus, that most surgeons would agree that in such the mastoid ought to be opened. When the symptoms are obtrusive, the pain severe, the discomfort great, the discharge profuse, and possibly foul-smelling, the patients themselves will probably demand relief, which the otologist will readily grant. It is not, however, to such pronounced cases that special attention is here directed. It is rather to those in which the decision is much more difficult, especially in the presence of very slight discharge, continuous, though apparently subdued by treatment. Many believe that very slight though persistent otorrhœa can lead to no untoward result, the patient living a considerable number of years, possibly even a long life, with the discharge never properly away, and yet not sufficient to arrest

attention. Its long duration causes the bearer of it to pay little attention to it, and by-and-by it may be disregarded, and even forgotten.

The pyogenic process may, however, proceed inwards, giving rise to symptoms often misunderstood or attributed to other causes, and may eventually either prove fatal or, by undermining the constitution, thereby pave the way for the advent of other lesions. Many patients thus affected, though able to pursue their usual avocations, are yet subject to periods of malaise, with occasional recurrent slight febrile attacks, irritability, and nervous hypersensitiveness, exhibited in unevenness and irascibility of temper, which attacks last from a few days to a week or more, leaving the patient slightly weaker, though relieved from the depression, and fit to enjoy life. These attacks are so frequent, and the patient becomes so used to them, that he comes to regard them as part of his ordinary habit, and often attributes them, with considerable plausibility, and sometimes with point, to colds, chills, biliousness, indigestion, etc.

When they occur, however, in the presence of pyogenic otorrhœa of old standing, they may bear a different interpretation, and in the absence of other definitely assignable causes they may be considered as the result of slight absorptions. In some cases the cause and effect are a little more evident, as when patients have pyogenic pulmonary catarrh with organisms in the lung secretion similar to that found in the slight purulent otitis media, and when these pulmonary attacks are mainly coincident with the recrudescence of the otorrhœa. In some such slight cases, after every other assignable cause was exhausted, and after treatment in other directions had failed, the mastoid was opened, when, in the midst of eburnation and sclerosis of the bone, marked osseous erosions, containing small quantities of secretion filled with pyogenic organisms, were found, and generally these led more or less directly to the sigmoid sinus, the coats of which bore evidence of long-standing irritation, and through which, no doubt, the pyogenic absorptions had taken place.

After the operation these patients became greatly improved in health, all their old general symptoms having disappeared along with the cessation of the otorrhœa.

Cases with a history of an initial period somewhat similar to the above have been seen at a later stage by the author, coming under observation in a moribund condition from pneumonia, due to septic infections from thrombosis of the sigmoid sinus, originating in a purulent otitis media of old standing; the passage between the

cells and the sigmoid sinus being in some instances very small and tortuous, and not unlike those apertures seen in the cases with slight symptoms just referred to.

When it is recollected that in many instances the otitis media purulenta is obscure and overlooked, and that the symptoms of the purulent absorption may be of a "typhoid" as well as of a "pulmonary" type, one can easily understand that death may be attributed to pneumonia or to enteric fever.

It is quite true that, with chronic otitis media purulenta, a fatal issue ensues only in a limited number of cases, a proportion, however, perhaps greater than is generally believed, but as one cannot, with any data obtainable at present, foretell which of these apparently slightly affected patients are to become the victims of a fatal issue, ordinary prudence dictates its removal even while it is slight.

It cannot be too often recalled that the virulence of the otorrhœa cannot be measured by the quantity of the secretion, its odour, or the slightrness of its initial symptoms, and that the pyogenic process may proceed insidiously until some slight exciting cause or accidental circumstance precipitates a dangerous or fatal crisis.

2. Another question arises, whether there be lesions in the middle ear, which, though it may be mechanically possible to remove them through the external auditory meatus, could yet be removed with greater safety through the mastoid. This must be answered affirmatively, while the middle ear and its adnexa are in a septic condition, and when by application through the external auditory meatus they cannot be made aseptic prior to the performance of an operation entailing the exposure of a fresh surface to the action of pyogenic organisms and their products. To operate through the external ear under such conditions is to court disaster. By opening the mastoid one can efficiently remove therefrom the suppuration, and can eradicate its cause, after which any operation involving exposure of a fresh surface can be proceeded with in safety.

In numerous instances, cases of intracranial pyogenic extension have occurred in immediate sequence to the removal by way of the external auditory meatus of granulation tissue masses—so-called "aural polypi"—which were protruding into the middle ear. Some of these granulation masses protrude through the bone from the dura mater, which they serve to protect, *as long as they remain intact*, but when they are removed a fresh surface with open mouths of vessels is exposed, and absorption through the softened brain membranes is apt to occur.

Besides rendering the operation safe by asepsis, the opening through the mastoid enables one to demonstrate the exact locality from which these granulation masses spring. This is difficult and sometimes impossible to do, by operating through the external auditory meatus. One must recollect that many of these granulation masses, presenting at the upper and back part of the middle ear, protrude through eroded bone, and that their presence is to be regarded as indicative of a diseased process which has attacked the osseous tissues as well as the soft parts: and therefore to an extent these granulation masses are symptomatic, and by removing them alone the disease is not removed, but only *one* of its indications.

As long as these masses are left *intact*, they may secrete, but they do not readily absorb, as they are destitute of lymphatics, and therefore in the midst of certain pyogenic organisms, not only may the granulation masses be left with safety, but they afford for the tissues from which they spring a definite protection from the invasion of certain pyogenic organisms. They are a provision thrown out by Nature in an attempt at repair.

In the presence of such granulation masses, one does not devise an operation merely for their removal, but for the eradication of the disease which has occasioned them. In removing them one has also to make provision that absorption will not take place through the wounded surface left thereby.

3. In many, if not all, of these persistent pyogenic otorrhœas, the osseous tissue is involved, and it is very difficult, by means of treatment through the external auditory meatus, to eradicate the organisms that have housed themselves in the recesses of a minute particle of necrotic bone. In the interior of such harbours of refuge, situated in the mastoid, the pyogenic and other organisms are safe from any antiseptic wave or blast introduced through the external ear, and wait—and they have endless patience, even beyond that of the aurist—until the antiseptic has exhausted its energies, when they again sally forth, in the tide of a catarrhal effusion, disseminating themselves and affecting fresh areas. Erosion often steadily progresses within the mastoid cells, even when the middle ear has been rendered sweet. In such cases the surgeon would be deceived were he forming an opinion on the asepticity of the mastoid cells from the condition of the discharge issuing through an external ear which he has rendered aseptic by chemicals, as a slight pyogenic discharge issuing through such chemicals would probably be rendered aseptic in transit.

In other parts of the body where a necrotic bone filled with pyogenic organisms is even exposed to view and of easy access, it

is the greatest difficulty, and sometimes it is impossible, to entirely destroy these organisms by direct applications of antiseptics of such strengths as the neighbouring tissues would withstand without themselves being destroyed. If this be so under such conditions, how much more difficult must it be by way of the external ear to eradicate pyogenic organisms through hidden, narrow, tortuous, and sometimes almost inaccessible passages which are often found in the mastoid process and cells.

4. In recurrent cases of purulent otitis media, one cannot pronounce the patient safe even when the otorrhœa ceases—temporarily.

In one such instance, treated through the middle ear on the most approved principles, with great care, by an aurist of undoubted ability and experience, the patient, who had had a slight pyogenic otorrhœa, was pronounced cured by the aurist, the discharge having disappeared, and the condition of the middle ear appearing to him in every way satisfactory. Within about three weeks of this time the patient came under my observation, suffering from pronounced symptoms of cerebellar abscess, and was plunged in profound coma, accompanied with great respiratory difficulty. He was operated on, two ounces of pus being removed from the cerebellum, after which he made a rapid recovery. The middle ear contained only a few drops of pus, the mastoid, antrum and cells contained more, and an erosion in the mastoid exposed the sigmoid sinus, which was thickened, the disease having spread to the cerebellum by continuity of tissue. With the data at the disposal of the aurist in this case it would have been difficult for him to have acted otherwise than he did, and had he done so, it would have been at variance with the teaching of the day. This case, however, demonstrates that the information obtainable by inspection of the middle ear is not sufficient to reveal the pyogenic invasion of the recesses of the mastoid region.

Had the case been treated by opening the mastoid in the way described, the formation of the abscess in the cerebellum would have been prevented.

5. Cholesteatoma and tubercular processes with secondary pyogenic involvement are also conditions for which the mastoid requires to be opened, as it is only in this way that these diseases can be efficiently removed.

6. The problems connected with the question of operation upon recurrent attacks of purulent otorrhœa are somewhat similar to those which arise in connection with appendicitis. Purulent otitis media and appendicitis have many analogies. They are both

pyogenic, but while the latter is the result of the action of a well-known bacillus, whose course is definite, the former may be the result of one or other of a variety of organisms of greater or less virulency, and producing different pathological effects. Both are apt to invade neighbouring structures, the one the peritoneum, the other the intracranial tissues. Both are insidious in their action, and as long as they exist they are apt to undermine the health and reduce the vigour of the individual. Both tend to precipitate a sudden serious illness, and one which is often fatal. In both an early and complete operation not only at once relieves the patient from the depressing effects of the disease, but at once removes the possibility of a sudden and fatal termination. In both many, lulled into a sense of security by the apparent passivity of the disease and its long duration, and arguing from the fact, that as the patients have recovered from one attack they are equally likely to recover from another, postpone operation until the peritoneum in the one case and the brain in the other become involved, and a fatal termination is imminent, and then it may be too late to save the patient.

7. With regard to the fauna occurring in that perfect incubating chamber, the middle ear and its adnexa, and their relative pathological significance, the time at our disposal prevents us dwelling at present further than to state that valuable indications may be derived from the identification of the particular form or forms of organism which may be present in such cases.

8. After what the author has elsewhere written, he presumes that it may be understood that the opening of the mastoid must always be undertaken as a preliminary step to operating upon those intracranial lesions originating in purulent otitis media—abscess of the brain or cerebellum and sigmoid sinus thrombosis. To operate upon the several complications, and to leave uneradicated the paths by which pyogenic organisms enter, is to render the patient's recovery doubtful, and to expose him to fresh attacks.

9. Syme is credited with saying that diseases of the ear were of two kinds: the one which is curable, and is treated by the surgeon; the other which is incurable, and is treated by the aurist. Whatever be the special province of the present-day aurist or surgeon, let us hope that we relegate to neither many cases of incurable disease. The anatomy and pathology of the mastoid region were not understood in Syme's day, and the operation of opening the mastoid in its present conception was unknown. As the subject which you, Mr. President, have arranged for this discussion is the indications for opening the mastoid in purulent

otitis media, we are precluded from entering into the consideration of the results attending that operation. The personal experience of the author leads him, however, to state that he regards the operation of opening the mastoid as the safest and most efficient way of eradicating otherwise persistent purulent otitis media. In conclusion, he adds that the more the pathology of purulent otitis media is studied, the more frequently the complete ablation of the mastoid recesses is undertaken, the fewer will become the so-called incurable cases of "ear disease." He regards the operation of opening the mastoid as substantially contributing to the well-being of human comfort and happiness, and materially lengthening life.

OPENING ADDRESS BY DR. LUC (Paris).

Dr. LUC said : The indications for opening the mastoid apophysis, which are simple enough in cases of acute suppuration of the ear, because they then consist of the combination of signs characteristic of purulent retention in the antrum and mastoid cells, are, on the other hand, numerous and varied in cases of chronic otorrhœa.

Here the phenomena may suddenly appear at a given moment, after months and years of suppuration, nothing having occurred to interfere with the flow, which, causing the patient no pain, has been more or less neglected by him. But this is only a very limited aspect of the question, and in addition to this primary indication, which was the only one known at the commencement of aural surgery, others have been added. The progress of our methods of diagnosis has taught us that in the majority of cases the intractable nature of many otorrhœas results from lesions seated in parts of the middle ear which are inaccessible to our means of treatment through the natural passages—the attic and antrum.

It is thus that we have learnt to open the mastoid, no longer simply to insure the flow of pus retained in the cavities, but to reach the extreme limits of the suppurative focus, and to dry up in a radical way a suppuration which is otherwise incurable. We must recall to mind that Schwartz of Halle, Zaufal of Prag, and Stacke of Erfurt, have been the principal promoters of this movement, which has since become so widely known. There is then a second cause of indication quite distinct from the first.

There is a third, since the numerous endeavours to open the cranium, which have been made within recent years, to circumvent the results of intracranial affection so frequent in the course of otorrhœa, have led the majority of aural surgeons to the conviction

that the antrum is the most certain track by which to reach the original focus, be it meningitis, encephalitis or thrombophlebitis arising from disease of the ear, and consequently this opening must be considered as the prelude or first step preceding the search for any of the foci in question. Our subject is thus divided into three chapters, which we will attack in succession.

1. *Indications for Opening the Mastoid in Chronic Otorrhœa in Case of Purulent Retention.*

It is not our intention to dwell long on this subject. The indications for operation are almost identical with those present in the acute forms of otitic suppuration.

It is aroused by some intercurrent accident, occurring most unexpectedly, in the course of an old otorrhœa, until then more or less neglected. Generally brought on by the development of exuberant granulations in the cavum, particularly in the neighbourhood of the *aditus ad antrum*, the pus which had always easily flowed out of the attic into the cavum and meatus finds an obstacle to its regular evacuation; the patient feels for the first time an ear-ache, localized generally at the base of the mastoid process. At the same time fever makes its appearance, while the general state is disturbed.

Palpation of the apophysis reveals a marked tenderness to pressure, predominant at or chiefly confined to its base, except where the cells extend almost to its point, this last region proving the chief seat of pain.

When the antrum is contracted, deep and separated from the surface by a broad band of eburnated tissue, retention causes the seat of disease to give rise to a sensation as of an otalgia, more or less intense, generally accompanied by sensibility to pressure at the base of the process, and a persistent febrile state, with the arrest or diminution of discharge. Consequently the persistence and accentuation of this state constitutes an indication for intervention, provided it is necessary for a re-establishment of the flow of pus, a procedure such as removal of polypi that obstructed the meatus in such a case, growing, may be, from the cavum in the region of the *aditus*, not proving sufficient.

Pain, and that alone, gives, in our opinion, a reason to intervene when it has attained a certain degree of intensity, depriving the patient, for instance, of all sleep. Delay operation in such a case, other symptoms appear, such as swelling over the mastoid, œdema; and the risk is run of finding signs that infection has entered the cranium.

Intra-mastoid retention of pus is happily not always so obscure

in the course of chronic otorrhœa. Quite often, in fact, pain and the sensitiveness of the region of the apophysis are not slow in exhibiting the classical local symptoms of mastoiditis, so-called mastoid retention; for it is well recognised to-day that all suppurations of the ear are accompanied by a purulent mastoiditis, and the local signs in question—swelling, œdema, and redness of the skin—indicate not simple antral suppuration, but *imprisonment of pus in its interior*.

These signs always notify the natural advance of the pus to the soft external parts, which we consider as favourable and beneficial: favourable in the sense that the mastoid antrum is shown to be superficially placed, and removing at the same time the danger of irruption of pus towards the cranial contents; beneficial in the sense that it clears the mind of all doubt in those doctors most inclined to hesitate or temporize, and causes them to operate without delay.

What must happen in such cases? What must be the nature and extent of our intervention? We believe we can arrive at the principle. Whenever there is an indication to operate on the mastoid in the course of a chronic otorrhœa, whether on account of the phenomena of retention, or that one proposes to discover and destroy the lesions maintaining the suppuration, the operation of opening the cavity and subsequent curetting ought to affect the whole of the cavities of the middle ear.

It is of slight importance whether we commence the operation through the antrum to reach the attic, along the aditus, after the method of Zaufal, or whether, following the teaching of Stacke, we enter the antrum *via* the attic. Yet, again, all the cavities, all the recesses of the middle ear, must be opened and cleaned out. Proceed otherwise, and the patient, notably in a case of retention, remains exposed to a persistence of this otorrhœa, its reproduction, and finally to those accidents we seek to combat.

2. *Indications for opening the Mastoid with a view to the Radical Cure of Chronic Otorrhœa.*

We believe we may express this principle, that any focus of suppuration, however inveterate it may be, is unable to resist the surgical treatment which realizes the triple result of exposing, then cleaning and draining, the whole of its suppurative surface.

What has for long justified the expression "intractable otorrhœa" is that, up till recent times, apart from accidental retention of pus in the mastoid, indicating urgently the opening of the antrum, all treatment of aural suppuration was limited to the opening of the tympanum. This is only a very small part

of the cavities of the middle ear. Above it is the lodgment of the ossicles, the attic, which is concealed from our inspection by the osseous ridge, which results from the difference of level between its roof and that of the auditory meatus. Behind it, and on a slightly higher level, is the petrous antrum, communicating with it by a narrow canal, the aditus, and extending more or less far in the direction of the base of the mastoid process.

The prolongations of the tympanic cavity upwards and backwards, the attic, and the antrum are the most often involved in the pathological process, and especially in the suppurations. Further, certain peculiarities of the anatomical disposition render them peculiarly favourable for the retention of pus, and the perpetuation of suppuration at their level.

Indeed, both these peculiarities are explained by their situation, which renders them inaccessible through the natural passages both to our inspection and our means of treatment. Let us add, in regard to the petrous antrum, that as it dips more or less deeply into the mastoid process, below the level of the aditus, which is its natural outflow, and passes insensibly in many cases of old-standing osteitis, along with the mastoid cells, into a large suppurating cavity, which extends down to the tip of the process, it can only emit its pus into the tympanum when there is enough to overflow—a circumstance favourable for the development of fungating granulations, which in their turn can keep up the suppuration, and only disappear under the action of the curette. As regards the attic, it would seem at first sight that its situation immediately above the tympanum would favour in the best possible way the outflow of any pus secreted in its interior, but in its origin the mechanism of the retention of the pus is here of a special nature; namely, in the very middle of the cavity in question there is the bulk of the ossicles, which are held in their respective positions by complicated ligamentous apparatus, whose meshes allow the pus to circulate only with the greatest difficulty. We must add to this that the ossicles, which are generally affected by the spread of the fungating osteitis, contribute actively in keeping up the otorrhœa.

The preceding considerations had not escaped the surgeons of the Halle school, where we must admit that modern aural surgery, which has become so fruitful in its results, had its birthplace. Schwartze was the first who endeavoured to bring about the cure of several otorrhœas by opening the antrum with a view to making a counter-opening for the outflow of lotions injected through the meatus.

On the other hand, one of his pupils, Ludewig, brought about the cure of other chronic otorrhœas by the extraction of the carious malleus and incus. The road was thus opened in the direction of genuinely rational treatment for the most intractable forms of otorrhœa; but it remained for Stacke (of Erfurt) to give the complete solution of the problem, by proposing a new operative method of laying open and cleaning by one stroke the whole of the cavities of the middle ear.

Stacke, however, limited his first interventions to the attic, but soon experience taught him that this limited intervention ended most frequently in failure, as the lesions met with in this cavity existed almost always simultaneously in the antrum, and he arrived at this conclusion, to which we have ourselves been led by experience, and which we cannot express too strongly as a principle, that *the mastoid antrum, the actual prolongation of the attic, near the base of the petrous bone, participates in the great majority of cases in the suppurative lesions of the latter, and ought therefore to be opened and curetted at the same time, when sufficiently long attempts at local treatment of the otorrhœa through the auditory meatus have failed.*

We are now naturally led to study the combination of signs, which in the course of a chronic otorrhœa indicate that the attico-antral cavity participates in the suppuration, if, indeed, it is not the sole or principal source, and that consequently surgical interference is called for, answering the precise object of rendering accessible to the action of the curette and to drainage a region which is naturally beyond our means of treatment, owing to its anatomical situation.

Clinically, chronic otorrhœa, originating in the antrum, presents itself under two distinct aspects, according as it is accompanied or not by a fistula. We should consider the symptoms of these two forms successively.

In most cases the mastoid fistula is on the external surface of the process, and as a rule at its base, but it may be further back or near the tip. Under these circumstances there is nothing easier or more instructive than to explore the opening by means of a probe. We are here, so to speak, brought directly in contact with the osseous lesion, and when the instrument has penetrated the antro-mastoid cavity, it gives us very valuable information as to its situation and dimension.

But the mastoid fistula does not always appear on the external surface. It may occupy other positions, and it is all the more important to recognise them, in proportion, as they are unusual.

Let us mention, in the first place, those not very rare cases in

which it is found on the posterior wall of the auditory meatus. We have recently observed during the present year a remarkable example in a diabetic lady, about fifty years of age, who was sent on account of what appeared to be a simple otorrhœa. The first peculiarity which arrested our attention was that insufflation of air into the tympanum was not accompanied by perforation sound, and further that the fundus of the meatus was obstructed by a large granulation-mass growing from the posterior wall. After we had removed this granulation from the wall, we found a fistulous orifice, from which pus escaped in abundance. This led us to suspect an anterior mastoid fistula.

In this case we were unable, on account of the narrowness and obliquity of the osseous fistula, to confirm our diagnosis by means of the probe or exploratory irrigation by means of Hartmann's canula, but the lesions seemed sufficiently characteristic to justify the proposal to open the mastoid cavities, and we had an opportunity, a few days afterwards, of verifying the exactness of our diagnosis. In point of fact, the operation revealed that the process was converted into a vast suppurating cavity, from which the pus could only escape by an overflow through the narrow orifice on its anterior wall.

The diagnosis of chronic mastoiditis, which is difficult when a perforation occupies the position described, is much more so when, subsequent to chronic Bezold's mastoiditis, it is situated on the internal wall of the process, the pus escaping from there, along a deep track underlying the sterno-cleido-mastoid, to escape by an orifice often far away from the mastoid region, so that the first idea in one's mind is that one has to deal with a fistula arising from a cold, cervical, glandular abscess.

We published at the commencement of this year, in the *Archives Internationales d'Otologie*, a remarkable case, and we believe a unique one, of this clinical form, occurring in a young man of twenty years of age, who had come for the treatment of a cervical orifice in the right side of his neck, immediately behind the posterior margin of the sterno-cleido-mastoid muscle. This fistula had existed for four years, and was all that remained of a diffuse phlegmon of the neck, which had come on after an acute suppuration in the ear. On the first examination, we found that the tympanic membrane was destroyed, and that the ear still suppurated in a slight degree. The co-existence of a cervical fistula along with an old-standing otorrhœa put us on the right line for the diagnosis, and our suspicions were confirmed by the exploration of the track by means of a probe pushed upwards, penetrating at first the mass of the

sterno-cleido-mastoid, then the interior of the mastoid process. The young man recovered after long and laborious treatment, which consisted, on the one hand, in the opening and curetting of the whole cavity of the middle ear, and, on the other hand, the opening in all its length of the fistulous track, in such a manner as to transform it into one deep groove; finally, in the resection of the bulk of the mastoid process, so as to reach the granulations which had developed in its interior around the perforations on its inner wall.

It remains now to consider the signs by which one may recognise the second category of cases of chronic mastoiditis, namely, those in which there is no fistulous track to offer more or less direct communication between the mastoid focus and the exterior.

It is in such cases, apart from accidental retention, that the diagnosis offers the maximum of difficulties. It seems to us that the term *latent mastoiditis* is peculiarly applicable to this clinical form.

Inspection and palpation of the mastoid region reveal absolutely no abnormal peculiarity; there is neither fistula nor redness of the skin, nor tenderness on pressure. The whole symptomatic expression of the affection is limited to an intractable otorrhœa, in the customary sense of the word, that is to say, resisting the most varying therapeutic means, including the extraction of the ossicles.

What do we learn in such cases from the examination of the tympanic membrane?

We find it always perforated, that goes without saying, but its perforations may be referred to three distinct types, which are easy to classify:

1. There is first the type of *Shrapnell perforation*, situated above the short process of the malleus.

2. Then *circum-malleal perforation*, characterized by extensive destruction of the tympanum all around the handle of the malleus, which hangs in its middle. Often there are fungating granulations in the posterior region of the perforation, that is to say, in the neighbourhood of the aditus, which indicate disease in this region, and irrigations in this direction made by means of Hartmann's canula confirm this presumption by bringing about the expulsion of cheesy and fetid pus.

3. Finally, the *postero-superior perforation*, characterized by a small loss of substance in the membrane, situated in the region of the aditus. This perforation, like the preceding ones, frequently allows of the passage of small polypoid masses, which recur invariably every time they are removed, and irrigation directed

towards them by means of Hartmann's canula produces the same result as in the preceding cases.

Independently of these polypoid growths, the different types of perforation which we have just passed in review permit us at times to discover whitish mother-of-pearl masses, which are nothing else but cholesteatomata occupying the attico-antral region. In such cases the Hartmann canula again plays its marvellous rôle, as a means of diagnosis, by expelling these pathological products, which are so characteristic, and placing them directly under the eye of the observer.

The different otoscopic confirmations which we have just enumerated would then offer strong presumption in favour of the suppurative focus being in the attico-antral region, especially if in the case of large tympanic perforations the examination of the lower part of the drum revealed no lesion capable of keeping up the suppuration.

Does this diagnosis carry with it at once the indication for opening the mastoid and the attic? We do not think so. In a case which we have supposed of an intractable chronic otorrhœa, but unaccompanied by indications of retention, or threatening complication, there is no urgency for interference. It is then our duty to avoid having recourse to the great surgical opening in question, until we have exhausted the rational local means applicable through the meatus. Among these means we would place in the first line irrigation practised through the perforation in the direction of the attic and aditus by means of Hartmann's canula, this simple instrument of which we have now to speak strongly in praise as a curative means, just as we have already spoken of it as valuable for diagnostic purposes. In point of fact, these irrigations carried out regularly and followed by the insufflation of various antiseptic powders and by tampons plugged as deeply as possible, bring about a cure with considerable frequency in cases in which one would be tempted at first sight to consider the surgical opening the only possible means of treating them successfully.

If these means, employed methodically and regularly for several weeks, should fail, there is still one method of treatment to which we should have recourse, namely, the extraction of the ossicles through the natural passages, especially when we have to deal with a Shrapnell perforation, or when the ossicles appear manifestly affected with osteitis.

This operation ought to be followed by as complete curetting as possible of the attic by means of little curettes curved in different directions, after which the drum should be plugged with strips of

gauze, which we should take care to introduce right up into the superior part.

After several consecutive weeks of this treatment we must be guided by our results. If the suppuration persists, with or without the regrowth of granulations in the region of the aditus, if the injections directed upwards and backwards by means of Hartmann's canula towards the antrum continue to bring about the expulsion of fresh quantities of pus, and particularly if this pus is fetid, laden with cheesy granulations and with necrotic scales, there should be no further hesitation; the extraction of the ossicles has only enabled us to touch a portion of the lesions, and there remains another focus to be opened and cleansed, which could only be done at the cost of an operative breach, necessitating an external wound: from this moment to open surgically the attic mastoid cavities becomes an absolute duty.

Indications for the Opening of the Mastoid in Chronic Otorrhœa in Cases of Threatening of Intra-Cranial Complications.

We have just passed in review two classes of cases in which the operation of opening the mastoid was a necessity, but in these the urgency of their nature was quite different: in the first it was a matter of intervening without delay in order to insure the escape of pus supposed to be retained in the mastoid cavities, and at the same time to remove the focus of suppuration by opening it and cleaning it out in its whole extent: in the second class, on the other hand, this latter task was the only one which had to be fulfilled; we were in presence of an otorrhœa which had proved its intractable nature under all methods of treatment directed against it through the natural openings, whence the conclusion that the focus keeping up the suppuration was inaccessible by these passages, and that it was necessary to attack it by an artificial route. But, however, there being no urgent call for the intervention, the operator can take his time and only decide to intervene after he is assured of the insufficiency of other methods of treatment.

We have now to consider a third class of cases, in which the urgent call for intervention is still more imperative than in the first; it is not merely a matter of allowing exit for purulent secretion which is prevented from escaping, and thus to put an end to the more or less severe pain, at the same time that one assures the patient against the possible danger of an extension of pus into the intracranial cavity, but it is necessary to combat without delay the real danger of a commencement of meningo-encephalic extension.

Before entering upon this subject there is one symptom, pointing to a well-known complication of chronic suppuration of the middle

ear, with which we think we ought to occupy ourselves at this point, more especially in considering the indications for the opening of the mastoid. We refer to the occurrence of facial hemiplegia on the same side as the affected ear. It seems to us that we are all agreed in according to this eventuality, under the circumstances supposed, a very special degree of gravity. It marks, indeed, a further step in the progress of the destructive work of the osteitis, and it is not uncommon to see it followed more and more quickly by the explosion of an intracranial infection. In all cases, this occurrence being possibly the result of compression of the nerve, either by a sequestrum or by granulations blocked up in the region of the aditus, it is rationally indicated that we should at once go to the help of the nerve which is thus in danger, so as to be in time to prevent, if possible, a lasting facial paralysis. For all these reasons we ought to consider the occurrence of peripheral facial hemiplegia on the same side as the diseased ear, in the course of chronic otorrhœa, if not as an indication sufficiently decisive to determine of itself the necessity for intervention, at all events as an argument of such a nature as to remove all hesitation regarding the necessity for operating without delay, in cases where the collection of signs presented by the patient would seem to render the surgical opening of the ear justifiable.

While there is only relative urgency in case of the occurrence of facial hemiplegia of otic origin in the course of an intractable otorrhœa, this urgency for the opening of the mastoid becomes absolute in the presence of any symptomatic manifestation betraying the commencement of intracranial infection with or without concomitant retention of pus, the natural outflow of antral pus through the tympanum and the external meatus preventing in no way the fungating osteitis from carrying on this destructive work, and from exposing at any given moment the external surface of the dura mater to contact with the infectious germs of the aural focus.

We do not consider it our duty here to draw up a complete symptomatic table of intracranial infection arising from the ear, whether we are concerned with the commencement of meningitis, of encephalitis or of thrombophlebitis of the lateral sinus. It is quite evident that when the classical symptomatic combination of symptoms peculiar to one of these complications is produced, the opening of the skull and the search for the intracranial focus must be carried out without delay, as the only possible means of saving the patient.

Now, in such circumstances, even in the presence of certain symptoms called focal symptoms, pointing to the existence of a

focus of encephalitis more or less distant from the petrous bone, our opinion (which we know besides to be that of most of our colleagues in aural surgery) is that instead of basing our choice of site for the cranial opening on considerations of cerebral localization, it is better to proceed straight away to carry out the antro-mastoid opening, pushing our resection of bone to the extent of laying bare the dura mater of the middle fossa of the skull, if we have reason for suspecting a lesion of the temporo-sphenoidal lobe, whereas we expose the dura mater of the posterior fossa and the lateral sinus if the symptoms observed suggest more probably a lesion of the cerebellum or an infection of the lateral sinus.

We have been supposing a case of confirmed intracranial infection; but before arriving at this, our patients pass often through a certain premonitory phase, the signification of which it is important to recognise, because in proceeding from this moment to the opening of the mastoid, we have a great opportunity for circumventing possibilities of accidents by means of disinfection limited to the osseous focus, or at least of preventing them from passing the barrier formed by the dura mater.

We cannot, therefore, too strongly insist upon the symptomatology of this period when the danger might yet be relieved by a simple operation, not risking the grave consequences attached to any interference beyond the limits of the dura mater.

In the first line of this symptomatic enumeration we would place pain, which is no longer limited to the deep part of the ear and the mastoid region, but diffused towards the forehead or the vertex, and taking on the character of severe headache. Often this is accompanied by a certain degree of photophobia, and the countenance acquires the contracted expression which is so peculiar to the initial stage of meningitis. Other symptoms may be added to these and accentuate their significance, even when there does not yet exist any established meningo-encephalitis, a fact proved by the result of the opening of the mastoid at this period: it may be a vertiginous state, preventing the patient from standing erect, and even accompanied by nausea: there may be bilious vomitings, absolutely analogous to those occurring in confirmed meningitis: there is occasionally a shade of inequality between the two pupils. Lastly, the temperature does not always remain normal at this period, especially if the accidents in question are accompanied by purulent retention, or if there is the commencement of infection of the lateral sinus, in which case the fever may present the extensive oscillations which are so characteristic.

Once more we cannot insist too much on the urgency created

in regard to the mastoid operation, not by the simultaneous appearance of all the preceding symptoms, but the occurrence in a decided form of even a single one of them.

Under such circumstances, we would formulate the principle *that the osseous opening ought not only, as in all cases of chronic otorrhea, to extend into all the cavities of the middle ear, but it ought to be carried to the denudation of the dura mater.* No doubt the operator is often saved this trouble, and in many cases in which a prompt intervention may have been determined upon, the occurrence of several *meningitiform* manifestations which we have just enumerated, but will find the explanation of the symptoms in question in the discovery of a perforation of one of the deep walls of the attico-antral space, leaving the dura mater bare, in direct contact with the pus of the focus.

The duty of the operator in cases of this kind is to carry out minute disinfection of all the walls of the focus, and especially of the denuded portion of the dura mater; also to leave the surgical wound sufficiently open in order to permit of a subsequent inspection of the osseous cavities which have been operated on; but, on the other hand, our confirmed opinion is that *we ought not at the time of this first intervention to open the dura mater*, because the simple extra-dural disinfection may suffice, and it suffices often to bring about the complete subsidence of even extremely anxious meningitiform disturbances. Now, those of us who have had any experience of cranial intervention know how different the prognosis after the operation must be according as the dura mater has been opened or not.

It ought only to be opened at a second operation, on which we must, however, decide without hesitation and without delay if after supervision for twenty-four hours subsequent to the first operation there is a persistence, or, still more, an accentuation, of the symptoms of intracranial infection.

If the necessity for the deeper operation occurs, it is remarkably facilitated by the first one, which has had for its result to lay bare the region of the dura mater, behind which may be found the focus we are seeking for, either immediately on the surface of the pia mater, or, it may be, at a slight depth in the cerebral substance.

Under these circumstances, the mastoid opening will form the first rational stage of the intracranial intervention; it will have served to justify its further performance, and to simplify the process of carrying it out.

CONCLUSIONS.

A.

The opening of the mastoid is indicated in the course of chronic otorrhœa under three distinct circumstances:

- (1) When the object is to give vent to pus in cases of purulent retention.
- (2) For the circumvention of conditions indicating the threatening or the commencing of intracranial infection of aural origin.
- (3) For the cure of the otorrhœa after it has been recognised that this has proved intractable to different methods of local treatment applied through the auditory meatus, including the extraction of the ossicles and the curetting of granulations accessible through this passage.

B.

The operation is only urgent in the two first cases.

C.

In all cases of chronic otorrhœa the opening in the bone should extend from the antrum to the attic, or from the attic to the antrum, and be followed by curetting and complete disinfection of the whole of the cavities of the middle ear.

D.

In the case of threatening intracranial complications, the osseous breach ought to extend from the first to the suspected region of the dura mater; this membrane, however, not to be opened until a second operation, after a delay of armed expectation of as short duration as possible, if the threatening signs in question are seen to persist, or, still more, to increase.

D. G. (*Trans.*)

OPENING ADDRESS BY PROFESSOR KNAPP (New York).

Professor HERMANN KNAPP said we did not only want to be informed that under certain conditions, which his predecessors had so exhaustively and authoritatively dealt with, the mastoid should be opened, but also when, how and where, in particular how extensively, it should be opened, the description of the mere technique or the operation, however, lying outside the question. When acute purulent otitis media was on the border-line of becoming chronic, or had just become chronic, opening of the mastoid was indicated both as a curative and prophylactic measure. The indication for opening the mastoid was strengthened if tuberculosis,

diabetes, syphilis, or some other constitutional disease, were present, particularly in the case of children. He thought the frequency of relapses in children was owing to the structural conditions of the infantile mastoid. He mentioned a case which had come under his own observation, to show that the suppuration may leave the tympanic cavity, attic, and antrum, but extend into and beyond the tip of the mastoid. The pus cells in this case travelled through the condensed bones in passages so small that they could not be followed with the naked eye. The indications for operation in advanced cases of destructive subacute chronic mastoiditis were absolute, and in the relapses of suppurative mastoiditis almost absolute. The prognosis in both cases was favourable. He had seen children recover who had a whole mastoid and a good deal of the adjacent temporal bone converted into gelatinous masses, and the dura extensively covered with soft discoloured granulations. The best treatment of cases which from the beginning showed a disposition to long duration was to perform first the opening of the mastoid, and conduct the subsequent local and constitutional treatment with the utmost care and perseverance, so as to prevent the affection from becoming chronic. As particular requirements in such cases, he should lay stress on (1) a large, deep, and angular incision of the drum-head and the adjacent part of the posterior wall of the ear canal as soon as there was bulging, (2) opening the mastoid and thorough removal of all diseased tissue, (3) enlarging the antral canal by cautious scooping, (4) watching the course of recovery, using dry treatment rather than syringing. In chronic suppurative otitis media without symptoms of mastoid involvement that had resisted topical treatment and intratympanic operations, attico-antrectomy was indicated. In many cases it was difficult to determine when this should be done. During past years intratympanic operations had steadily lost ground. Many aural surgeons reported good results from the removal of the ossicles and cleansing the attic in cases of chronic otorrhœa with or without cerebral symptoms. But, unfortunately, the good results in most of them had not proved permanent. He alluded to a patient who had long been treated by intratympanic procedures, but received only temporary relief. Such cases had determined him not to lose much time with intratympanic operations, although he would not go so far as an excellent otologist who told him that he had abandoned them altogether.

If the outer wall of the mastoid was perforated, and an abscess or a fistula present, it was indicated to evacuate the abscess and seek the perforation, and, guided by it and the fistula, open the

mastoid freely and remove all morbid material. That was better than to let the patient take the uncertain chances of a spontaneous recovery, which was rarely complete and permanent.

If the disease extended beyond the mastoid process, the radical tympano-mastoid operation had to be followed by operations on the affected parts outside the ear.

If in chronic purulent otitis media the anterior wall of the mastoid bulges—which meant a suppuration in the cells adjacent to the posterior wall of the ear canal—a free incision down to the bone was indicated. We should then explore the wall with a probe, or, if the skin was swollen and painful, wait a few days to see whether the mastoid should be opened from the outer surface or from the anterior.

If the pus extended from the ear into the pharynx, forming a retropharyngeal abscess, he would open the mastoid and expose the tympanic cavity and attic clear to the tympanic orifice of the tube, and free it as far as possible from pus and disintegrated tissue.

The extension of the disease to the posterior cranial fossa was so important and so frequent that the removal of the posterior wall, in particular that part of it which formed the sulcus of the sigmoid sinus, had been recommended and practised by some competent aurists in all cases. If the posterior wall showed no flaw on the closest search, and the suppuration was limited, he had left the wall alone; but when the contents of the mastoid had undergone extensive molecular disintegration, he considered the exploratory exposure of the sigmoid sinus and dura mater correct practice. Similar indications resulted from the extension of the suppuration into the middle cranial fossa, an occurrence less frequent than its extension into the posterior fossa.

Extension of the suppuration in the petrous bone might indicate opening of the mastoid as an initial step for removing carious and necrosed portions of the petrous or evacuating pus which had passed from the middle ear through petrous bone into the posterior cranial fossa, producing an epidural abscess on the posterior surface of the petrous bone.

Meningitis in the first stage might be recovered from by opening of the mastoid and posterior and middle cranial fossæ, exposing boldly the posterior surface of the petrous and liberating the pus.

Necrosis of the different portions of the temporal bone indicated the opening of the mastoid in most cases.

It was evident, Professor Knapp said, in conclusion, that the opening of the mastoid in its recent development by the combined

efforts of general and aural surgeons took rank amongst the most important operations.

Professor LUCÆ (Berlin) then read a paper on *The Radical Operation in Chronic Suppurative Inflammation of the Middle Ear*.

At the outset I cannot sufficiently express my high estimation, he said, of the operation in question as an extraordinary means of cure in chronic suppuration of the middle ear. At times it has been only by means of this operation that I have seen healing brought about in a large number of cases. The following observations are intended to serve the purpose of diminishing the abuse of the operation as much as possible.

In the University Aural Clinic in Berlin under my direction there have been from April, 1881 (date of the foundation of the stationary clinic) up to August, 1899, 1,935 operations for the opening of the mastoid process, of which 852 were for acute and 1,083 for chronic forms of suppuration. At a superficial glance these numbers may appear large even in the chronic cases, but the experienced aurist will agree with me that the number of the chronic cases in which operation has been performed is by no means great in proportion to the acute.

It is obvious that in only a fraction of the chronic cases in which operation was performed was the operation such as is known as the "radical" one (opening of the whole of the cavities of the middle ear), this having only come into general use within recent years.

In order to form a more exact estimate of the frequency of performance of the "radical" operation in the chronic cases, I have calculated the percentage of operations to the total of cases of aural suppuration, and have selected for this purpose the last four years (the years are counted according to the customary Prussian "State year" from April to April). This has been done particularly, because during this period the treatment by means of irrigation with formalin lotion has been adopted since 1895. These had a double advantage, because I was able to cure without operation the larger number of cases, or at least to improve them, and further that, if the remedy produced no good result, the indication for operation was all the more distinctly marked.

The following are the numbers arrived at during this period, namely, from April to April in each year:

1. 1895-96 in total 2,061 middle-ear suppurations:

648 acute, with 86 operations = 11.72 per cent.

1,413 chronic, with 116 operations = 8.35 per cent.

2. 1896-97 in total 1,763 middle-ear suppurations :
528 acute, with 66 operations = 12.5 per cent.
1,208 chronic, with 85 operations = 7.03 per cent.
3. 1897-98 in total 1,700 middle-ear suppurations :
581 acute, with 69 operations = 11.87 per cent.
1,119 chronic, with 69 operations = 6.16 per cent.
4. 1898-99 in total 1,661 middle-ear suppurations :
530 acute, with 61 operations = 11.51 per cent.
1,131 chronic, with 90 operations = 7.95 per cent.

It must be mentioned that the number of new ear cases has by no means diminished, but, on the contrary, from 1895 to 1899 there has been an increase from 6,536 to 6,704. The percentage numbers speak for themselves sufficiently distinctly, and they show that the number of operations in chronic cases as compared with the acute ones is much smaller; in the year 1897 to 1898 they were only about half. Further, it is of interest to notice how small the absolute percentage of operations in chronic cases has been on the whole, and that the acute cases call for relatively few operations.

The statistical comparison of this period of four years of formalin treatment with the previous years would give no certain results, because most of the cases of chronic suppuration in the middle ear have been treated as out-patients, and only a few in the in-patient department, and, as happens unfortunately in every polyclinic, many of them fail to return with any regularity. We have, however, the general impression that the results of the formalin treatment have been better than those of any other. It is particularly in cases running a "cold" course without any threatening symptoms, and where it was only on account of the fœtor of the discharge that there was any suspicion of deeper-seated affection that the formalin treatment was most remarkable. The general rule was that when the treatment was carried out carefully several times a day for four or six weeks, and no improvement in the fœtor was brought about, the subsequent operation always revealed severe affection of the temporal bone (empyema, caries, cholesteatoma, etc.). Formalin has the double advantage that it is not only a powerful disinfectant, but it is very cheap. The strength of the solution used by me for irrigation is fifteen or twenty drops to one litre of boiled water. I have never observed severe or lasting irritation produced thereby. The only unpleasant effect, especially in frightened children, is that the remedy runs through the Eustachian tube, and produces occasionally transitory pain in the pharynx. This, however, is soon overcome by means of gargling

with cold water. In such cases a weaker solution may be employed, as the effect of the formalin is very powerful. D. G. (*Trans.*)

Gentlemen, as I think in German, I have spoken in my native tongue. But I now only wish to say some words for the British ears not understanding German. I am of the opinion that the opening of the mastoid, or at least of the *cavum tympani*, is a very important help in the treatment of chronic otorrhœa. But also one may get on in plenty of cases by non-operating. I beg to add that instead of being proud of saying, "I have operated on so many patients," one should be prouder of saying, "I have cured so many patients also without operating."

Professor GUYE (Amsterdam) said the mastoid operation was a very great boon to the patient and to humanity in general, as Professor Macewen had so well said, but, nevertheless, as to finding the indication for mastoid operations only in discharge which did not give rise to dangerous symptoms he could not agree. He was with Professor Lucae when he said that one should be prouder of having cured cases of chronic suppuration without an operation. He considered that the important thing in a case of chronic otorrhœa was to keep the meatus as clean as possible, the using of carb. glyc., and, thirdly, to have great care for the keeping open of the Eustachian tube. His practice was, to patients who could bear the expense of a menthol insufflator, to get them to blow menthol into the nose and through the tympanum, after Politzer's method. The operations ought to be reserved for really dangerous cases.

Dr. MOURE (Bordeaux): I am quite of the same opinion as the openers of the discussion, who do not hesitate to open the mastoid whenever a discharge from the ear resists medical treatment, followed or not by the extraction of the ossicles, when this treatment has been properly carried out. It is certain, however, that surgical treatment ought to be limited to some otorrhœas, and not practised in all, as seem to think the partisans of surgical treatment *à outrance*. When a purulent otorrhœa is complicated by local pain; when irrigation directed towards the attic washes out cheesy matter, or, still more, mother-of-pearl pellicles; when the otorrhœa continues to be fetid, in spite of regular irrigation; when, finally, we see the granulations recurring, in spite of ablation or cauterization, still more if there are spots of caries towards the superior or posterior parts of the meatus—in all these cases we must not hesitate to interfere surgically. Moreover, it may be said that all those who have had occasion to perform a certain number of operations of this kind have a tendency the more they operate to be more and more ready to operate. They recognise the neces-

sity for operating, as also the efficacy of surgical treatment, which alone affords the means of curing certain otorrhœas which are intractable under ordinary treatment.

Dr. McBRIDE (Edinburgh) joined views with Professor Politzer, Professor Lucæ, and Professor Guye in their conservative methods with regard to mastoid operations. Professor Macewen had laid down that a persistent discharge alone from the ear without other symptoms was an indication for mastoid operation. Under certain circumstances it might be so, but by no means generally. The question came to be, What could they promise to their patients from a mastoid operation? In chronic cases they could promise the patient nothing. A certain proportion did not do well after the operation, the discharge remained, and the patient was exactly where he was before. But he agreed with Dr. Knapp that they did not do quite enough operations in acute cases just beginning to become chronic. Here the discharge usually ceased, the membrane healed, and hearing was restored after draining through the mastoid.

Dr. JANSEN (Berlin) was prepared to accept, as his own, the statement of Professor Macewen, that frequently disease of the mastoid process did not show itself by outward signs. The question with regard to operative treatment was easier when, instead of making the diagnosis simply of suppuration of the middle ear, they designated beforehand the region of the middle ear which was affected. Then cases with suppuration in the lower section of the tympanum did not come into the question, but, nevertheless, it was only with great difficulty that they could effect a cure of disease in the large sinus between the fenestra rotunda and the facial. Further, the rare form limited to the attic was also to be excluded from consideration, as it did not require to be exposed through the mastoid process. On the other hand, the complication of abscess in the tube, which was very rare, called for an opening through the mastoid process. There only remained the conditions localized in the antrum and mastoid process.

It was desirable to differentiate between antrum and mastoid suppuration, because suppuration limited to the antrum was often cured without operation. When the discharge was slight, and always about the same in quantity, there was a great probability of there being uncomplicated antrum suppuration. A more exact description of the symptoms which indicated retention and increased pressure in the antrum and mastoid cells, as Dr. Luc had described, was possible, and it enlarged the circle of cases in which the indication for operation was urgent.

Professor GRADENIGO (Turin) said that, having performed a great

number of middle-ear operations by the retro-auricular method in cases of chronic suppurative otitis media, he had come to the conclusion that the indications for the operation, such as had been generally stated in the discussion, were exaggerated. For the purpose of healing simple chronic pathological conditions of the tympanic cavity, the extraction of the ossicles, or even of the hammer only, and removal through the external auditory canal of the posterior superior bony wall, were for the most part sufficient. In such cases the retro-auricular method did not give better results, and even exposed the patient to risks of various kinds. It required a long after-treatment, difficult to be carried out, especially in children, and the final result often compromised the success of the best performed operation. Amongst the decided indications for the retro-auricular operation, with the opening of the mastoid, must be considered the cases of cholesteatoma antri, and all cases where symptoms existed pointing to mastoideal pathological conditions or to intracranial complications. Regarding the technique, he preferred the Zaufal-Stacke method.

Dr. NOYES (New York) said while he fully agreed with the advisability of operative treatment for cases where there was any bone disease, he recommended the dry treatment. There was a class of chronic cases in which the acute process might have already considerably subsided, for which the treatment by dry powdered boracic acid was most effective.

Professor KÜMMEL (Breslau) said: One class of cases has not been mentioned—hysterical girls; they are able to imitate any kind of symptoms. I want to illustrate this by reporting the case of a girl who has been operated upon for the fifth time, and never anything has been found. The skull has been trephined over and over, until there is a defect of the size of the palm of the hand. Her brain has been punctured in at least twenty places. Still, about every six months she becomes ill with the same symptoms; she reproduces all the appearances of dizziness; she shows facial paralysis by contracting the one side of the face or the other; she has temperature up to 40.2° C., or $104\frac{1}{2}^{\circ}$ F. This girl is quite well now, with her over twenty punctures of the brain and seven or ten narcoses.

Professor EEMAN (Ghent), on the subject of opening the mastoid, said that, speaking generally, he was a very warm advocate for the radical operation, but he thought it was a duty in many cases to try *at first*, and *before* performing a radical operation, *all* the other means which science possesses against chronic otitis purulenta.

He particularly wished to direct attention to the cases in which

the extraction of the malleus can be sufficient to effect a complete and lasting recovery. He said that in his clinic the extraction of the malleus had been performed very often, and with splendid results, about 15 per cent. of the cases being entirely cured. Some of these cases came under treatment with conditions which would certainly have led other surgeons to an immediate and radical mastoid operation, such as fever, intracranial symptoms, inflammation and narrowing of the external auditory canal, etc. In these cases, under appropriate treatment, inflammation subsided in a few days, and then it was possible to ascertain that there was perforation of the membrane of Shrapnell, and caries of the head of the malleus. Extraction of this ossicle gave a perfect cure: some of the cases had continued under his observation for years after the operation, and he was able to state that the results had been lasting. Professor Eeman desired to warmly advocate the extraction of the malleus in cases of chronic purulent otitis presenting perforation of Shrapnell's membrane and caries of part of the malleus, and the postponement of the radical operation until it had been practically demonstrated that the removal of the malleus was insufficient to cure the patient.

Moreover, he said that he could not agree with the assertion of Schwartze, that isolated caries of the malleus was rare, and that as a rule both incus and malleus were affected at the same time; in his clinic isolated caries of the malleus had been found to be frequent.

Dr. OSCAR BRIEGER (Breslau) expressed himself as follows: Among the indications for radical operation we have included the failure of local medical treatment to produce a cure. According to the present standard of our knowledge this indication will have to be admitted to some degree. But it would be erroneous to deduce that the operation would render subsequent treatment superfluous. On the contrary, after the operative opening of the cavities of the middle ear, the alterations of the mucous membrane, which may become manifest, besides the morbid foci in the bone, may require further local treatment. It is occasionally possible to shorten the after-treatment by combining it with local treatment of the mucous membrane. It is, for instance, advisable in processes which reveal lasting maceration of new-formed or implanted epidermis to plug with gauze soaked in alcohol. Formalin also answers those purposes, as well as combinations with other drugs—for instance, weak solution of nitrate of silver in alcohol—according to the intensity of the process in question.

Luc recommends especially the evacuation of the cavities of the middle ear. If it is to be understood by this that after each radical

operation the ossicles ought to be removed, it must be objected that in the interest of the function the preservation of these has been advised. In general this advice is superfluous, because the connection of the columella is in those cases interrupted by destruction of the long process of the incus. It is quite true that the function is sometimes remarkably good after this, in general, complicated method. But it happens that even after complete skinning over of the cavities of the middle ear fetid secretion continues from carious points of the remaining malleus. And this is less accessible for treatment, and more dangerous, because the local conditions are altered to a variable extent by adhesions, etc. It is necessary, at least, to make careful selection of those cases where the ossicles are to be preserved. With regard to the contra-indications against the operation, Dr. Brieger is inclined to exclude meningitis. There are cases where marked symptoms of meningitis are present, and nevertheless there is only circumscribed suppuration, which may heal if new infection from the cavities of the middle ear is excluded by means of an operation; but recovery may take place in spite of diffuse meningitis, as ascertained by lumbar puncture, if the primary centre of infection is destroyed by radical operation, and if by this puncture more favourable conditions are created, recovery may in those cases be effected by removal of the infected material, by the lumbar tapping, or perhaps at the same time by the production of new transudating lymph, which may have some bactericidal propensity. Of course successes of this kind are rare in extensive meningitis, but are sufficient to justify us in rejecting extensive meningitis as an absolute contra-indication against radical operation, the more so as the operation itself is harmless in those desperate cases.

Dr. BARR (Glasgow) regretted that the subject of their discussion excluded the methods of operation, and the results of operations, especially the latter, because he thought that one of the most important considerations with regard to the subject was the results of operative measures in chronic suppuration of the middle ear. Probably the most interesting class of cases was that for which there was no immediate demand for operation—cases where there were no objective or subjective symptoms demanding speedy operation. They were indebted to Professor Macewen for uttering a warning about continuing the treatment by the external meatus too long before adopting operation. They must not, however, be too much discouraged by certain dangers of ordinary treatment referred to by Professor Macewen, such as the removal of granulation tissue or polypi, as the experience of otologists showed that

these were not great. Still, it was well that a surgeon of Professor Macewen's vast experience should utter those words of warning. Although the question of attic treatment had been rather disparagingly referred to by Dr. Knapp, Dr. Barr believed that the attic syringe was of great value, although many of the attic syringes in use were too narrow in the bore. He had found that in many cases after the attic treatment, including the removal of the malleus and incus, and the efficient use of a proper attic syringe, no radical mastoid operation was required.

Professor FARACI (Palermo) thanked Professor Gradenigo for approving of his osteotomy forceps. In the majority of cases he had found the removal of the larger ossicles and the resection of the outer wall of the attic and antrum sufficient. He thought it non-justifiable to open the mastoid as a whole till the ossicles had been removed through the meatus. As regards endocranial threatenings, there were two categories: (1) If the complication had occurred, the mastoid was a small part of the whole operation. (2) If the complication was only threatening, the operation through the meatus sufficed, as in a case quoted with meningitis symptoms.

His conclusions were that the mastoid should be opened:

1. When it was invaded by the morbid process in whole or in part.
2. When all the other methods of treatment, including the ablation of the larger ossicles and the resection of the outer wall of the tympanic attic and mastoid antrum, had been found fruitless.
3. In cases of manifest intracranial complications, the mastoid operation being followed by the further interference the complications demanded.

Dr. SUAREZ DE MENDOZA (Paris) thought that pain alone was not necessarily an indication for opening up the cavities of the middle ear in their totality. Sometimes in such cases the mastoid was found almost or quite healthy, and the pain was due to eburnation of the mastoid cells. A simple gouging of the mastoid or its erosion by means of an electric burr might be sufficient in such cases. With pain as the sole indication, they might cease operating deeper if the condensation of the bone and the absence of pus or granulations allowed them to attribute the pain to the condensation of the osseous tissue.

Dr. MILLIGAN (Manchester) said that in cases where local treatment had been faithfully tried for a period of twelve months, and where suppuration persisted, he was in favour of performing a mastoid operation. By local treatment he included the ordinary methods of antiseptically cleansing the parts, the removal of granulation tissue, the removal of diseased ossicles, etc.

Where such methods failed he thought recourse to an exploratory operation justifiable. By its means the paths of infection could be followed up, concealed foci of sepsis could be attended to, and extension to more deeply seated parts frequently arrested.

He desired to associate himself very largely with the opinions expressed by Professor Macewen.

Mr. T. MARK HOVELL (London) said that the mere fact that a discharge had existed for a long time was not a sufficient reason for the mastoid process being immediately opened up. He considered that the operation should not be undertaken in chronic suppurative inflammation of the middle ear until the ordinary methods of treatment had been fairly tried. About ten years ago he saw a lady who had a discharge from one ear which had lasted for forty-three years. It ceased entirely after about six weeks' treatment by the usual method with an antiseptic lotion and dry boracic powder. The discharge had not returned.

Mr. Hovell was of opinion that when the attic was cleared out the mastoid antrum should be opened up at the same time, otherwise a second operation might become necessary.

Dr. C. R. HOLMES (Cincinnati) said he had practised, and was likely to continue to practise, the lines laid down by Professor Macewen. Dr. McBride had said that they could not promise results to mastoid cases. He certainly wished to put himself against that statement. He believed that in almost every case they could promise the patient a cure. They should save the patient the possibility of two operations when they knew one thoroughly performed would cure.

Dr. DENCH (New York) said each case must be treated according to the local conditions present. When the mastoid operation was involved a complete mastoid operation was imperative. If during the operation the surgeon found that infection of the lateral sinus had taken place, he must not hesitate to remove every source of infection. In one of the speaker's cases a second operation was necessary, owing to jugular involvement.

Mr. CRESSWELL BABER (Brighton) thought that most were agreed that in chronic suppuration of the middle ear, accompanied by mastoid symptoms, the bone should be opened. The interesting point to consider was whether the mastoid should be opened in cases of chronic suppurative otitis media without any symptoms except the discharge. In those cases he considered that, as a general rule, first of all, every means of arresting the discharge through the meatus (such as careful cleansing, curetting, removal of ossicles, etc.) should be tried, and if the purulent discharge

from the tympanum still continued, the risks of pyogenic infection from this focus should be put before the patient or his friends, and the possibilities of an operation on the mastoid placing him in a safer position explained, although, of course, no certainty of a cure could be promised until the parts had been exposed by operation, and the full extent of the disease ascertained.

Dr. J. HOLINGER (Chicago) thought that, more or less, they were all conservative in the treatment of chronic suppuration. There was one class of cases undoubtedly where conservatism was absolutely contra-indicated. It was the case following the influenza and grip. Whenever in the course of chronic suppuration of the middle ear, no matter how innocent it looked, acute otitis media followed after influenza, they could not lose any time with any conservative measures. The only hope was to operate right away. He wished to emphasize this point.

Mr. P. R. W. DE SANTI (London) said the duration of the discharge in eighteen patients he had had under observation was from six months to fifteen years. On these eighteen patients twenty-six operations had been performed; twenty-four operations he had found to be perfectly successful, and in four cases he had followed the teaching of Professor Macewen.

Mr. F. FAULDER WHITE (Coventry) said it would be a deplorable thing if it went out to the profession that otologists in general were all for operations and not for any other treatment. Patients were even now being told by the average practitioner that there was no cure for otorrhœa. Much that had been written in the medical journals had favoured that idea. A great many people would not be operated upon, and consequently they were not getting treated at all for otorrhœa. He recommended hot antiseptic irrigation. He was not against operations where the bone was diseased, but he rather regretted hearing from Professor Macewen that all these cases had better be treated by operation, because such an expression of opinion would prevent a lot of very good treatment. He thought the whole point of treatment was to arouse vitality, and he thought they had, considering the size of the cavity, a very fair entrance from the meatus. He remarked that in Coventry cases of otorrhœa were treated as in-patients: that irrigation was employed frequently, even up to every three hours; and that the results were distinctly good.

Dr. LEDERMAN (New York) observed that a conservative method of treatment was generally approved, but that when the discharge resisted treatment for a certain length of time, all agreed that the mastoid should be opened. He inquired what would be a suitable length of time for treatment.

The PRESIDENT regretted that two of the principal papers were not received in time to print before the discussion, but he hoped that they would be put in print as early as possible. When the surgeon has to perform the operation it must be done thoroughly, and to do it properly he must take great care not to leave a large cavity covered up behind. These were the cases in which it was often most difficult to say whether they should operate or not. When they operated they did not leave the patient as he was before; they interfered with Nature. It must be remembered when they were going to operate, that they were not certain of curing. It was exceedingly difficult to say which cases should be operated upon, but he quite agreed with general rules laid down by Professor Politzer and Dr. Barr. Replying to Dr. Lederman's inquiry, he said that it was impossible to say how long a case should be continued with the ordinary treatment before settling upon an operation.

Professor MACEWEN briefly replied, and pointed out that he had not said, as stated by Dr. McBride, that in simple discharge operation should be resorted to. That statement had been made elsewhere, and as he had not paid the slightest attention to it, it had been repeated there. He wished it to be made known that it was not correct.

Papers.

Dr. T. BOBONE (San Remo) read a paper on *The Early Involution of Adenoid Growths on the Riviera*.

The paper was a contribution to the etiology of adenoid growths. Dr. Bobone said he had for some time been surprised at the fact that adenoids are excessively rare amongst the natives at San Remo. Moreover, he had observed that adenoids, in patients coming to the Riviera and for the removal of which the parents would not consent to an operation, began to slowly involute; so that some months afterwards nasal respiration was possible, speech was much improved, tendency to cold and cough with very slight provocation was lost, and normal development took place.

Dr. Bobone considers that pure and simple involution of the adenoid growths, although not generally admitted, is possible; and this involution he attributed to the same causes as the rarity of the vegetations amongst the natives. That cause must be looked for in the dryness of the climate and the clearness of the atmosphere on the Riviera.

The other etiological factors in the causation of adenoid vegeta-

tions mentioned by authors, such as geographical latitude, diatheses, discharge from the nose, infectious fevers, etc., are also to be met with at San Remo, and notwithstanding, the adenoid vegetations, as already stated, are so rare.

Dr. Bobone believes the most important factor in the etiology of the vegetations to be the humidity of the climate of the country where they are observed, and that the greater the humidity, the larger the number of children with adenoids. He has been able to demonstrate this fact in observing the geographical distribution of the vegetations in Italy, where the frequency increases with the humidity of the climate of the different regions, as the following table shows:

<i>Names of the Observers and Localities in which they are living.</i>	<i>Frequency with which they find Adenoid Growths.</i>	<i>Relative Humidity of these Localities.</i>
Bobone (San Remo)	extremely rare	60°-65°
Cozzolino (Naples)	0.01 per cent.	65°
Massei (Naples)	0.3-0.5 per cent.	65°
De Rossi (Rome)	0.8 per cent.	65°-70°
Corradi (Verona)	5 per cent.	70°-75°
Poli (Genoa)	7 per cent.	{ moist climate (Weber).
Kruch (Milan)	8 per cent.	
Arslan (Padua)	very frequently	
Ficano (Palermo)	very frequently	70°-73°
		80°

Dr. Bobone is also of opinion that a factor which frequently complicates a simple case of vegetations is inflammation—*adenoiditis*. In the localities where the vegetations are most frequently met with, there also are attacks of adenoiditis more frequent, favoured by the cold, the fog and the damp. Whereas on the Riviera the warm and dry climate is not favourable to the development of and frequently recurring attacks of adenoiditis; and when the vegetations are not irritated by inflammation, the involution can proceed.

Dr. Bobone added that in cases in which the parents would not consent to an operation, the good results he obtained he attributed more to the action of the climate than to other remedies.

Dr. ALLEN T. HAIGHT (Chicago) read a paper on *Naso-Pharyngeal Adenoids as a Causative Factor in Ear Diseases*.

Among the most interesting cases, he said, that came before the otologist were those relating to post-nasal vegetations affecting the hearing, and there were few patients to whom more satisfaction could be rendered than to those so affected. Adenoid vegetations seemed not to be restricted to countries, to climates, to sex, to

colour, or race of man. Naso-pharyngeal vegetations were a hypertrophy of the lymphoid tissue situated in the vault of the pharynx, bounded on either side by the orifice of the Eustachian tube, and presented on its surface several vertical furrows which partially subdivided it. It was his opinion, based on several years' experience in the Illinois Charitable Eye and Ear Infirmary and in private practice, that the main factor in producing both suppurative and non-suppurative inflammatory conditions of the tympanic and Eustachian mucous membranes was the presence of naso-pharyngeal adenoids, or the condition of the post-nares subsequent to their removal or absorption. Adenoid vegetation might produce inflammation of the middle ear (1) by constant irritation, on account of the obstruction to the circulation of the blood by pressure; (2) by blocking the orifice of the Eustachian tube partially or completely; (3) by their injurious effect upon the general economy of the child, and particularly upon the nerves of special sense; (4) by leaving as a sequela a post-nasal catarrh, which sooner or later establishes some form of middle-ear disease. In children who suffered from adenoid vegetations the hearing was generally very sensibly impaired, and it was the common thing for a child so affected to have questions repeated often and in a louder tone of voice. In many cases the Eustachian tube was completely blocked by dry secretions of the post-nares. He had observed diminution of power of hearing on the side where the adenoid existed. On the opposite side, where the post-nasal space was clear, the hearing was normal. He had seen cases where the hearing was seriously impaired, and the drum membranes normal in appearance, and yet with safety he assumed the faulty hearing to be dependent upon the growths in the naso-pharynx. Mouth-breathing, he believed, had an important otological bearing on the subject. The mouth-breathing child was usually found shallow through the upper part of the chest, and with very small lung capacity. They frequently met with children affected with adenoids who were not mouth-breathers, and these children were plump, well developed, and of healthy appearance, although they usually had some ear complication. In his examination of twenty-six children for deaf-mutism, he found only four free from post-nasal adenoids; sixteen of those examined showed marked facial deformity from mouth-breathing. He coincided with Harrison, Allen, and Lisson, who had expressed the opinion that there were many children in homes for feeble-minded and idiots all over the world who were affected with this disease, and who by a comparatively trifling operation could possibly be restored to usefulness and their families. It would be obvious to mention

every analogous case reported of deaf-mutes who, after the removal of adenoid vegetations, gave evidence of hearing and began to speak some words. The general belief that adenoid vegetations were never present after the thirtieth year was contradicted by Couetoux, of Nantes, who operated upon a man of sixty-five to cure a marked unilateral deafness. Dr. Haight had found vegetations in ages above sixty, and frequently between thirty and forty. They did not differ histologically from adenoids in children. It was not uncommon to observe these formations in the aged who were hard of hearing. Notwithstanding all the writings of the past ten years, he did not think that the pathological enlargement of the lymphoid tissue of the naso-pharynx had received sufficient attention in the world's text-books. If the symptoms of these growths were more generally recognised by the family physician, and their removal accomplished, they would not find so many chronic suppurative and non-suppurative inflammations of the middle ear, with the history dating back to an attack of diphtheria, scarlet fever, measles, or other fevers. As to treatment, he should say it was never too early nor was it ever too late. At the first recognition of existing growths the operation should be performed at once. He had found that curetting was the only true basis of treatment. He was not a believer in general anæsthetics in children over the age of twelve, as local anæsthesia after twelve made such an operation absolutely free from danger; but there were some cases where a general anæsthetic must be administered, especially in refractory children and nervous adults. In children it was advisable to anæsthetize in a sitting posture, and he preferred bromide of ethyl to any other of the numerous anæsthetics.

Professor KNAPP also advocated the use of ethyl. There was absolutely no danger.

Dr. EEMAN (Ghent), Professor GRAZZI, and Dr. GRADENIGO also joined in the discussion.

Dr. RUDLOFF (Wiesbaden) read a paper *On the Operation for the Removal of Adenoid Growths with the Head hanging over the Table, while the Patient is under the Influence of Chloroform.*

In his opening remarks, Dr. RUDLOFF drew attention to the method of performing operations on the hanging head, in cases in which there is danger of blood-suction. He then described his method, of which he had made use during the last eleven years. His experience included over 700 cases. He advocated the free administration of chloroform, and employed Boecker's and Hart-

mann's curette in performing the operation. In describing the method of operating he drew attention to the following points:

1. Adenoid growths occasionally have their origin in Rosenmüller's fossæ. In removing them it is important (*a*) to avoid injury to the pharyngeal orifice of the Eustachian tube: (*b*) to bear in mind that the tissue surrounding the carotid artery extends into the lateral wall of the fossa, and that danger of injury to this artery is to be guarded against. How necessary this warning is is proved by the case recorded by Schmiegelow.

2. Adenoid growths must be thoroughly removed (*a*) in order to avert as far as possible the danger of recurrence; (*b*) because a certain percentage of the cases which occur are tuberculous.

3. If the tonsils are enlarged it is advisable to remove them some time previously.

Dr. Rudloff illustrated his method by means of a specimen (sagittal section through the head), and exhibited the instruments he employed. He further showed casts illustrating the varying dimensions of Rosenmüller's fossa, and the relation existing between this fossa and the orifice of the Eustachian tube, and referred to a specimen showing the relation between the carotid artery and the lateral wall of Rosenmüller's fossa, which was exhibited in the Congress Museum. His statistics recorded a recurrence of $3\frac{1}{2}$ per cent. In concluding, he remarked that he did not necessarily confine himself to the method he had described, but adapted it to the individual requirements of the cases which came under his care.

BRITISH MEDICAL ASSOCIATION.

ANNUAL MEETING, HELD AT PORTSMOUTH, AUGUST 1 TO 4. SECTION
OF LARYNGOLOGY AND OTOTOLOGY.

(Continued from p. 486.)

Dr. ADOLPH BRONNER (Bradford) read a paper on *The Local Use of Formalin in the Treatment of Atrophic Rhinitis (often called Ozæna)*.

Dr. BRONNER said, in late years much had been written on the pathology and treatment of atrophic rhinitis. He did not intend to enter into any controversy on these points, and only wished to report on a new remedy which in his hands had proved most useful in these cases. He referred to the so-called atrophic (or dry) non-fœtid and to atrophic (or dry) fœtid rhinitis, often called ozæna.

The first indication in the treatment of atrophic rhinitis was to thoroughly cleanse the cavities and remove the inspissated mucus

and crusts. The second indication was to alter the nature of the secretion of the mucous membrane, and thus prevent the formation of the crusts.

He generally ordered an alkaline lotion for removing the crusts, to be used with a Higgenson's enema syringe, and with as much force as possible without causing serious discomfort. If there were any patches of hypertrophy of the mucous membrane, he removed them with the galvano-cautery or trichloroacetic acid.

Innumerable sprays and insufflations had been recommended in the treatment of atrophic rhinitis. He had for some time used formol or formalin. In bad cases he prescribed a 1 in 1,000 to 1 in 2,000 solution of the liquid formalin with water, to be used with a small nasal syringe: or a 1 in 500 to 1 in 1,000 solution, with a little glycerine added, to be used with a coarse spray three or four times a day for a few days, and then two or three days in the week for a few weeks or months. If the application was painful, the solution should be diluted with water. Formalin had a most powerful effect on the glandular tissues—how, he did not know, but he believed that it acted directly on the cells of the glands. It was therefore very important that the solution should not be too strong, or used for a very lengthy period of time.

Formalin had also a powerful deodorizing action. In cases of fœtid atrophic rhinitis—or, as some call it, ozæna—it was most useful in removing the most disagreeable and penetrating smell. If it only did this, and nothing else, it would be a boon to many a poor wretch.

In many cases of atrophic rhinitis the accessory nasal cavities were affected, particularly the maxillary antrum. Until these had been treated and cured, any local treatment of the nares must necessarily be futile. In his small experience the maxillary antrum or antra were affected in about 25 or 30 per cent. of all cases of ozæna.

In the after-treatment of atrophic rhinitis he had recently tried insufflations of tannoform (a combination of tannin and formalin) with boric acid, and found it most useful.

In conclusion, he wished once more to state that atrophic rhinitis, fœtid or non-fœtid, has nothing whatever to do with syphilis: also to protest against the so-called surgical treatment of ozæna. The exact nature of this treatment was a mystery. The patient is admitted into a private hospital, put under an anæsthetic, and then anything and everything in the nose which can be removed is pulled out with large forceps.

He had during the last few months seen no less than four

patients who had at various times been subjected to this so-called surgical treatment, and not only once, but three times, and one poor wretch four times.

Dr. JOBSON HORNE (London) spoke in favour of formalin as an antiseptic in diseases of the throat, nose, and ear. He more particularly referred to its value during the convalescent stage of infectious diseases of the nose and throat, such as diphtheria, when it is important to prevent the patient from being a source of infection to others, and in this respect he thought that formalin would be found to be a more efficient and suitable antiseptic than perchloride of mercury.

Dr. T. BOBONE (San Remo) said his patients had objected to formalin on account of the pain it occasioned, and advocated the use of nitrate of silver and iodide of potassium in the form of a paste.

Dr. WATSON WILLIAMS (Bristol) remarked that he had used weak formalin solution, but that his experience with it had not altogether fulfilled his expectations. It certainly removed the fetor, and often rendered the mucous membrane less dry for a time: but its use had caused pain in his cases, and he thought that unless the irritation produced amounted to considerable discomfort, the effects were very transitory. He had come to the conclusion that equally beneficial results were obtainable by freely washing out the cavities with alkaline solutions containing some carbolic acid or non-irritating antiseptic. He had not observed any frequent association of true ozæna with antral disease.

Dr. HERBERT TILLEY (London) emphasized the importance of thorough and efficient douching with an antiseptic alkaline wash, and said that most failures in cases where this was prescribed was due to the patients not knowing *how* to use their douche.

Dr. JACKSON (Pittsburg), Dr. PEGLER (London), and Dr. W. LAMB (Birmingham) also joined in the discussion.

Dr. BRONNER, in reply, stated that small quantities of formalin used in a spray, gradually increased in strength, for a few weeks at a time, would not occasion pain. Douching he considered unnecessary, and best avoided.

Dr. DUNDAS GRANT (London) read a paper on *Laryngitis Secondary to Nasal Disease*.

Without for a moment refusing to the larynx the right of being primarily affected on its own account, there is little doubt that in a very large number of cases—in my experience a considerable majority—the laryngeal trouble is associated with, or even caused

by, some form of nasal disease. There are several ways in which nasal disease may induce inflammatory changes in the larynx.

Nasal obstruction as such may oblige the patient to breathe through his mouth, and consequently to inhale air unwarmed, unmoistened, and unfiltered. In this way the production of the slighter forms of laryngitis is readily intelligible, and it is sufficient to induce hoarseness and vocal disability, especially if the voice be subjected to an amount of use or wrong use, which under other circumstances would be innocuous.

In ozæna—or, to be more exact, chronic fetid atrophic rhinitis—the larynx is notoriously apt to be affected, so that a condition described as ozæna laryngis is produced. Whether from an extension downwards *per continuitatem*, or from the inhalation of crusts and discharges, the surface of the laryngeal mucous membrane becomes altered, and as a rule thickened. It looks sticky rather than moist, and it is here and there beset with adherent flakes of dirty yellowish muco-pus in varying stages of dryness. These occasionally become suddenly impacted between the vocal cords, and the voice, habitually hoarse, becomes for the moment extinct. The pharynx is dry and glazed, the breath offensive.

In chronic suppurative inflammation of the nasal sinuses, more particularly the sphenoidal and posterior ethmoidal, the most usual complaint is of a dryness in the throat, with hoarseness or loss of voice. This is due to the laryngitis produced by the inhalation of infective muco-pus. The laryngeal appearance is that of a somewhat macerated mucous membrane; the epiglottis is comparatively unaffected; the ary-epiglottic folds lose their smoothness, and are bathed in a sticky muco-pus, which extends over the ventricular bands and particularly the interarytenoid mucous membrane. The latter swells up into the form of a beefy cushion; the vocal cords lose their polish, and acquire a red, swollen appearance, like raw beef.

These well-marked forms can scarcely escape recognition, but in simple chronic rhinitis of the moist variety the larynx becomes affected in a very characteristic manner. As the result of maceration by non-infective nasal secretion, the mucous membrane in the most exposed parts acquire a swollen and pale, as if “sodden,” appearance, suggestive of the skin of a washerwoman’s hand. This is particularly the case in the interarytenoid fold. The cords also lose their lustre and the fineness of their edges, acquiring a sort of cloudy, swollen character, as if, as I believe there is, there were a proliferation of the superficial epithelium.

Many users of the laryngoscope must have been perplexed by these bizarre appearances, as of laryngitis "gone wrong," until they traced them to their origin as results of various forms of rhinitis. Very often from the mere appearance of the larynx one is able to state with confidence that there is present some form of rhinitis, and even its nature, before extending one's investigation to the nasal cavities.

As I have already stated, I believe there is in the cases I am describing a proliferation of the superficial epithelium, although for the present I can produce no microscopic evidence to confirm a view which will, I believe, be readily accepted. The source of irritation being from the outside of the mucous membrane, the surface would be naturally the part first affected. In this respect, then, it differs from those diathetic forms of laryngitis and from those occasioned by misuse of the voice, in which vascular and inflammatory changes take place primarily in the submucous tissues.

The *diagnosis* is not, as a rule, difficult, if the nature of the cause be kept before the mind, and the appearance of the changes induced by maceration be realized.

In some cases rhinitic laryngitis may simulate *tuberculosis of the larynx*, especially when the irritation set up by a purulent discharge has led to swelling of the ary-epiglottic folds. There is, however, absence of involvement of the epiglottis; there is less translucency than is seen in the earlier steps of tubercular infiltration; there is little or no pain in swallowing, but there may be cough, disturbance of digestion, and even considerable deterioration of the general condition. The case is usually cleared up by the discovery of the rhinitic cause and by the remarkable improvement which takes place under treatment, if this includes the cleansing of the nasal passages.

The forms arising from chronic atrophic rhinitis may be taken for *syphilis*, especially when the swelling in the arytenoid space is considerable, and is covered by an adherent greenish crust. The fore-shortened view then obtained is very much that of a gumma. It is distinguished therefrom by the easy clearance of the crust by coughing, after the use of a soda spray or by brushing, as also by the effect of nasal medication. It is to be remembered that tertiary syphilitic disease in the nose may produce, as the result of inhalation of pus, a non-specific laryngitis.

From the description above given it may seem that the condition may greatly resemble some of the forms of *pachydermia laryngis*. In my opinion they *are* forms of pachydermia, or, in other words,

many cases of the less typical pachydermia of the arynx are really the superficial laryngitis which results from nasal suppuration.

Scleroma of the larynx is another condition which it may simulate, but this is usually accompanied by characteristic changes in the nose.

The *treatment* follows from the diagnosis, and takes two directions. I need hardly say that first and foremost the source of irritation must be removed by treatment of the nose. Thus, in congestion from simple nasal obstruction we may have to use an alkaline spray or wash, pin down the turgescient inferior turbinated body by the galvano-cautery or some equivalent, remove occluding septal outgrowths or portions of the turbinated bodies. In cases of ozæna free irrigation and the application of some stimulating and antiseptic spray, as a 5 to 10 per cent. solution of chloride of zinc, give the best results I have yet seen. Empyema of the various sinuses calls for the appropriate treatment, which cannot here receive detailed description.

As regards local laryngeal treatment, much depends on the nature of the condition.

In the chronic congestive conditions the local application of astringents (preferably the 10 per cent. solution of chloride of zinc in rose-water) by means of a brush or spray is desirable. A temporary anæmia is produced by means of a spray of cocaine (10 per cent.), which may be prolonged by the subsequent use of antipyrin; or the antipyrin may be preceded by eucaine, instead of cocaine, to avoid toxic effects. Errors in voice-production and respiration should be corrected. The voice should as a rule be kept at rest, but I believe that the decongestionizing is favoured by the cautious use of the "pmawing" exercises devised by Curtis.

Where the mucous membrane is simply sodden, rapid subsidence takes place when the nasal condition is removed, and such an astringent as chloride of zinc is applied. If, however, the white swelling of the mucous surface indicates proliferation of the epithelium, there is a local remedy of the greatest value, namely, salicylic acid. This may be used in strengths increasing from 1 to 5 per cent. in such a form as the following:

Salicylic acid, 5 to 25 grains.

Rectified spirits, 5 drachms.

Glycerine, 3 drachms.

The throat should be anæsthetized by means of cocaine or eucaine—at all events, for the first few times—and the application should be made by means of a very small pledget of wool securely twisted on a Smyly's laryngeal wool-holder. It should be confined

as much as possible to the affected part, which it rapidly blanches, leaving the normal mucous membrane very slightly whitened—at all events, when the weaker solutions are employed. This remedy is to be used with precaution, as it is necessarily irritating. It may be taken, as a rule, that the greater amount of epithelial proliferation, the greater is the indication for the use of salicylic acid, the better is it borne, the greater should be the strength and frequency of the application. When the epithelial thickening is removed, the acid is apt to produce a rawness, or even an erosion, of the surface, which, however, soon subsides when its use is discontinued. In cases in which there is no epithelial hyperplasia, this same untoward result is apt to ensue, and the remedy is contra-indicated.

In cases of epithelial hyperplasia in the interarytenoid space, the remedy is peculiarly indicated, and most easy to apply.

For those who have employed salicylic acid or the so-called “cannabine” in the treatment of corns, this use of the remedy will seem most natural, and they will be only surprised that it should be so little in vogue. I have tried this salicylic acid treatment in the case of recurrent papillomata of the larynx with definitely good results, such as have been recorded of its use on warts on the surface of the body.

Case of Rhinitic Laryngitis treated by Means of Salicylic Acid.

Miss B—— came under my care in October, 1896, complaining of pain in the throat after the slightest use of the voice, and also during swallowing. Her trouble was of two months' duration, and she had been practising singing for operatic purposes. Both vocal cords were thickened and rough, there was considerable hypertrophy of the inferior turbinates, and a small crop of adenoids in the naso-pharynx.

The turbinated bodies were reduced by operation, the adenoids were removed, and a slight improvement took place, but off and on the patient has been troubled with regard to her voice, so that she has been unable to use it for vocal purposes. The irrigation of the nose was freely carried out, and various astringents have from time to time been applied to the larynx. About two months ago a solution of salicylic acid was applied for the first time. The application, it must be admitted, was followed for several hours by some discomfort in the throat, and in the evening of the same day there was rather increased difficulty in the use of the voice.

The next day the voice was clearer than it had been before while under my treatment, and it has steadily improved ever since. I believe that at times I applied the acid too frequently, but on the whole the result has been exceptionally striking.

Case of Rhinitic Pachydermoid Laryngitis treated with Salicylic Acid.

Mr. G——, aged fifty-nine, music-hall attendant, came under my care, on the advice of Dr. Barragry, on account of a stuffy feeling in the throat and extreme hoarseness, which had lasted for about four months, and was getting worse rather than better. The cords were partially concealed by very swollen ventricular bands; they were obviously less tense than normal, and on their edges there was what looked like a layer of desquamating epithelium. The rest of the cords was red and succulent, and in the inter-arytenoid space the mucous membrane was swollen and sodden-looking. The nasal mucous membrane was in general hypertrophied, and there was considerable excess of mucous secretion.

The patient was advised to give up all alcoholic drinks (in which he usually indulged somewhat freely), and once a week, in gradually increasing strength, an alcoholic solution of salicylic acid (15 grains to the ounce) was applied to the thickening in the larynx. After two applications at intervals of a week, the voice was practically clear. At the same time he was ordered an alkaline lotion to wash out his nose, and though the swelling has not altogether disappeared, the whitish thickening on the edges of the cords is no longer perceptible.

Mr. RICHARD LAKE and Mr. J. POLLARD reported *A Case of Exophthalmic Goitre in which Operation had resulted in a Cure.*

The authors briefly stated the conditions that influence the choice of operation in the various cases of this disease.

Their case was that of a lady of thirty-two years of age who had suffered with Graves' disease for six years. The prominent symptoms were exophthalmos, tachycardia, fainting fits, intense nervousness, and great thyroid enlargement. The onset of the illness was traceable to recurrent attacks of influenza. Practically all acknowledged forms of treatment, both internal and external, including the so-called Indian treatment, were tried. None of them, however, produced any amelioration in the symptoms.

The operation was performed on May 18, 1898. The incision was about 5 inches long, extending from the angle of the jaw on the right side to the sterno-clavicular joint on the same side. The dissection was long and difficult, partly owing to the extreme vascularity of the parts, and partly to the fact that the enlarged lobe extended beneath the sterno-mastoid muscle, the trachea, and the sternum. The inferior thyroid artery was twice its usual size, and the lobe after removal measured $4\frac{1}{2}$ by $3\frac{1}{2}$ inches.

The patient showed no bad symptoms from the anæsthetic. During the first four days she had several attacks of cyanosis, pain on swallowing. On the second day the temperature rose to 100°, but this was the sole occasion that it was so high.

The results were, and at the present time are, most satisfactory. The intense cephalalgia present before was never noticed after the operation. The pulse, 160 before, fell in a week to 98, and is now little quicker than normal. The exophthalmos is also gone, likewise the tachycardia and faintness. Finally, the scar is only visible for about an inch at the upper part of the wound.

In the discussion which followed, Dr. WATSON WILLIAMS (Bristol) remarked he had observed in a similar case of exophthalmic goitre, that while removal of one lobe of the thyroid gland had been followed by marked amelioration of the symptoms, they had not been wholly removed, some exophthalmos, tremor, and tachycardia persisting. It was well to remember that Graves' disease is essentially a disease of the nervous system, and not of the thyroid gland, although excessive gland activity (when present) aggravates the symptoms which it does not originate, just as starch or sugar in the diet of a diabetic usually aggravates the disease which these common articles of food do not cause. The occurrence of unilateral cases of Graves' disease affords proof of these views, consequently we cannot hope that mere removal of one or both lobes of the thyroid gland will completely cure the patient. While congratulating the authors on the results in this case, he desired to emphasize the desirability of treatment by rest and drugs first, reserving operative interference for those very grave cases which did not improve under other modes of treatment: firstly, because a large number of cases were amenable to treatment by drugs, and eventually recovered; secondly, operative treatment was attended with a very high mortality; and, thirdly, it did not afford a cure.

Dr. HERBERT TILLEY agreed with Dr. Watson Williams in the importance of trying medical treatment before resorting to surgical interference, which was fraught with peculiar danger in these cases. He cited a case under his care, where the patient herself had desired to have the goitre removed, but medical treatment had produced so great an amelioration of symptoms that the patient had returned to her work as a servant. Dr. Tilley asked if any present had noticed any improvement in these cases when diseased conditions of the nose or throat had been treated. He had seen one marked case of improvement after nasal treatment, but also knew of one where all the symptoms of Graves' disease appeared on removal of nasal polypi. When one remembered that the common exciting

cause of the disease was most often of nervous origin, such sequences were perhaps not surprising.

Dr. POSTHUMUS MEYJES, Amsterdam, reported *A Case of Accessory Thyroid Gland at the Base of the Tongue*.

The following is a brief history of the case: Miss R——, twenty-four years of age, had felt since her infancy, and especially since the age of puberty, a lump like a potato sticking in her throat.

She came from healthy parents, and had never been ill herself. Her only complaint was that every now and then she brought up small quantities of bloodstained phlegm, which she thought the result of clearing her throat too hard when the swelling was more than usually irritating. Her health appeared to be good, and intellectually she gave the impression of being normally developed.

On examining the throat, Dr. MEYJES actually found the "potato" in the form of a semi-globular tumour occupying the right half of the base of the tongue, beginning behind the papilla circumvallata, and extending about 3 centimetres downward. The surface was a little darker than the surrounding parts, and some swollen blood-vessels ran over the tumour.

On palpation the tumour appeared fixed and painless, the surface smooth and firm, without any indication of fluctuation, he estimated the horizontal diameter at 3 centimetres, the vertical at $2\frac{1}{2}$ centimetres.

As regards the nature of the tumour; the absence of fluctuation precluded a cyst, the long duration of the development a malignant neoplasm. He could, therefore, but suppose that he had to deal with an accessory thyroid gland, accessory because the gland itself was not to be found in its normal place, although this, of course, may not be considered as an absolutely certain proof that the gland did not exist in an early phase of embryonic development.

The patient, who had a great aversion to operations, would not listen to an exploratory incision, still less to an operation, at least for the time being.

The reason why he did not strongly insist upon an exploratory incision was that the gland was contained in a rather thick capsule, and in order to reach the tissue proper a rather considerable wedge would have to be removed, giving rise to, from his experience, copious bleeding and secondary hæmorrhage, besides the whole of the tumour might be removed with the same amount of trouble. At all events, he decided to leave a small portion behind in order to prevent eventually myxœdema, which would be sure to set in if, after all, the tumour should turn out to be really accessory.

In view of the development of the thyroid gland, it is very well possible that a thyroid gland grows from the tractus intestinalis on the back of the tongue.

In the *Archiv. für Laryng.*, vol. viii., there is a paper by Baurowicz of Cracow on the presence of a thyroid gland in the trachea. He discusses, and at the same time controverts, the theory mooted by von Bruns, that the gland may have grown from a germ which got astray in the embryonic period, and developed during the age of puberty.

Basing his arguments on five analogous cases, in some of which a section was made (one of the patients dying of erysipelas *post operationem*), he arrived at the conclusion that the theory of von Ziemssen, who says that the thyroid glands found in the larynx must be considered as offshoots of the thyroid gland found in the normal place, is true, as the glands in the larynx have never been found isolated, but always connected with the mother-gland.

In a paper published on a subsequent occasion, von Bruns admits the truth of this theory, which further confirmed the opinion that the so-called accessory thyroid glands—in the larynx, at least—do not really deserve this name, but must be considered as offshoots of the mother-gland.

However, the thyroid gland having developed *in casu* on the base of the tongue, may be accessory because, in view of the anatomical relations, it would not do to assume that there is any connection whatever between this gland and the thyroid gland found under normal circumstances in the throat.

SOCIETIES' MEETINGS.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

General Meeting, July 28, 1899.

J. DUNDAS GRANT, M.D., *in the chair.*

The following officers were elected for the ensuing year, 1899-1900:

President: Dr. BARCLAY BARON (Bristol). Vice-Presidents: Dr. PERCY JAKINS, Mr. JOHN BARK (Liverpool), Mr. WYATT WINGRAVE. Council—Metropolitan: Dr. MIDDLEMASS HUNT (*ex. off.*), Dr. FURNISS POTTER, Mr. DENNIS VINRACE, Dr. GREVILLE MACDONALD,

Dr. ABERCROMBIE; Extra-Metropolitan: Dr. TRESILIAN (Enfield).
Dr. J. D. HILLIS (Dublin). Treasurer: Dr. DUNDAS GRANT. Hon.
Secretaries: Mr. STGEORGE REID, Dr. CHICHELE NOURSE.

The following cases and specimens were shown:

Otolology.

Dr. DUNDAS GRANT showed a *Case of Pyemia from Thrombophlebitis of the Lateral Sinus subsequent to Chronic Suppurative Inflammation of the Middle Ear, treated by Evacuation of the Sinus and Ligature of the Internal Jugular Vein, with Recovery*, which will be published in *extenso*.

Dr. FURNISS POTTER: *Case of Extreme Thinning of Tympanic Membrane, in which there had been Symptoms indicating Ear Mischief for only Three or Four Weeks previously.*

Specimens.

Dr. FURNISS POTTER: Microscopical specimen of *Malignant Disease of Marillary Antrum*.

Mr. WYATT WINGRAVE: Microscopical specimen of *Squamous Papilloma of Larynx*.

Laryngology.

Dr. DUNDAS GRANT described a *Case of Primary Syphilis of the Lip, in which the most obvious feature was the Discrete Adenopathy, the Primary Lesion being extremely inconspicuous*. The mode of Inoculation was quite undetermined.

Dr. FURNISS POTTER: *Recovery of Motor Power in a Case of Complete Recurrent Paralysis of Left Cord*.

The patient, a man aged forty-eight, was shown at the Laryngological Society of London in February last, with complete recurrent paralysis of the left vocal cord, together with marked paresis of the left side of the soft palate, and the same side of the tongue. There was a history of a "sore" twenty years ago, but none of rash, sore throat, or other sign indicating constitutional infection.

When shown in February the left cord was seen to be fixed and motionless in the cadaveric position. The left side of the soft palate was markedly paretic; there was some diminution of sensation, chiefly along the lower border; the tongue when protruded deviated to the left side. No affection of trapezius, sterno-mastoid or orbicularis oris. Examination of the chest gave a negative result.

The patient had taken iodide of potassium for five months in 10 and 15 grain doses, with the result that now the left cord moved quite freely, the movement of the soft palate was unimpaired, and the tongue could be protruded without any lateral deviation.

MR. WYATT WINGRAVE: 1. *Case of Laryngeal Papilloma* in a little girl aged seven years. The warts were situated at the anterior commissure, and were removed by Krause's endolaryngeal snare, but had twice recurred at intervals of one month. There were no "adenoids."

2. *Case of Keratosis of the Fancial and Lingual Tonsils*, which, having resisted treatment by chromic acid, galvano-cautery, etc., for twelve months, had yielded to the weekly application of a saturated solution of salicylic acid in rectified spirit.

Abstracts.

LARYNX.

Baumgarten, E. (Buda Pesth). — *On Papillomata of the Larynx in Children and their Treatment*. "Archiv. für Laryngologie und Rhinologie," Bd. viii., Heft 1.

Twin sisters, two years old, were taken to the author in November, 1894. They had been hoarse since birth, and in infancy had suffered from laryngismus.

One of them when nineteen months old was voiceless, and had to be intubated. On examining her the author found papillomata in the larynx. Tracheotomy was therefore performed in January, 1895, and she was dismissed wearing a canula.

The other child was also hoarse and breathed noisily. In March, 1895, she became feverish, there was great difficulty in breathing, and a croupous membrane was detected in the larynx covering papillomata. Serum was at once injected; the symptoms quickly abated, the larynx in a few days became clean, and the growths for the most part disappeared. In the first child also the papillomata were considerably smaller for a short time after the tracheotomy, a phenomenon which the author has observed after nearly every tracheotomy in these young patients. A still more notable retrogression, or even disappearance, occurs in children during intercurrent illness, *e.g.*, measles, scarlet fever, pneumonia, etc.

In the first child the growths filled the whole larynx, covered the ary-epiglottic folds, and proliferated downwards, often closing the canula. In July, 1895, the growths had increased in the second child so as to necessitate tracheotomy. Various means were employed in both patients for the removal of the growths, but rapid recurrence followed. In autumn the growths became so large in both children that they projected above the epiglottis and were visible on depressing the tongue.

In the first child, owing to the extension of the growths downwards interfering with the tracheotomy wound, a Trendelenburg canula was introduced, and the larynx and trachea from the wound upwards were exposed by median incision, the innumerable growths were removed, and the whole surface burned with the Pacquelin cautery. An ordinary

canula was then employed, and the larynx and trachea were packed with gauze. The wound was kept open for nine days, and every third day examined, and any growths that had been overlooked were removed. The growths above the larynx, however, could not be radically cleared out.

In autumn, 1895, a few papillomata had again appeared at the tracheal wound in the patient last referred to, while in the second child a large mass was present. Cauterizing with silver nitrate was tried, but without success. Chromic acid, however, proved of great benefit, and by means of it the growths were kept in abeyance.

In 1897 by Lori's method many papillomata were easily removed from both patients, and finally towards the end of the year they ceased to recur. The children now look well. The canula will be removed six months after the disappearance of the last papilloma.

The etiology of laryngeal papillomata in children cannot be definitely stated. The author does not believe that they are due to adenoid vegetations, as he has had many cases in which these were absent. He thinks that possibly the larynx may have been infected during birth in the two cases above reported. He has inquired as to this factor in other patients, and found that in some it may have existed, but that in most it did not.

Two varieties of papilloma can be distinguished in children. The rarer form usually affects older children, the growth being rose-coloured and seated on the vocal cord or its immediate vicinity. This variety is not so liable to proliferate and recur as the other, which may appear on every part of the laryngeal mucous membrane, the growths being grayish-red and showing a great tendency to recur.

After tracheotomy the papillomata often become strikingly smaller. This is due to the sudden rest the larynx obtains, but when the child begins to speak the growths soon attain their former size again. In certain, especially infectious diseases the papillomata may even disappear.

In the author's experience a time comes in every child with papillomata when the tendency of the growths to recur after operation ceases. This is not affected by the method of treatment adopted.

Sometimes these children die even after tracheotomy. The author relates two cases, in which the cause of death in one was a large papilloma above the bifurcation, and in the other granulations beneath the canula.

Very rarely can the endolaryngeal operation be performed without tracheotomy. It is usually found that all manipulation within the larynx is associated with such spasm that one must be ready to perform intubation or tracheotomy.

Intubation is not permissible in laryngeal papillomata, in the author's opinion, owing to the liability of pieces of growth to be torn off and fall into the air-passages below.

In some cases he has tried laryngotomy, but without noteworthy results. In two cases he thoroughly removed all that was suspicious, and afterwards applied the Pacquelin cautery, but in both there was recurrence. In other two, the larynx and trachea were kept open for nine days, but in these also there was recurrence. The operation, however, was well borne by the small patients. He recommends laryngotomy in fractious children, when, after tracheotomy, an intra-laryngeal operation cannot be performed; also in those cases in which changing the canula is dangerous, and in which cauterization with chromic acid

does not bring about a speedy result. In all other cases after tracheotomy he would employ Lori's procedure, which he considers of great value, and worthy of rescue from oblivion.

Lori's metal catheter has an oval, sharp-edged opening in front or behind, or at one side, close to its end. The size of the catheter must correspond with the lumen of the larynx. The great advantage of this instrument is that it can do no injury.

A. B. Kelly.

E A R.

Lewy, Dr. A. (Frankfurt).—*The Cure of Chronic Middle-Ear Suppuration, and the Closure of Perforations in the Tympanic Membrane by Means of Trichloroacetic Acid.* "Therapeutische Monatshefte," No. 5, 1899.

This paper reviews the results obtained by different investigators with the above treatment, and contains the history of nine cases treated by the author.

It is useful in chronic cases where other treatment has failed, where there is a large perforation, where there are granulations or infiltration of the mucous membrane, and in producing cicatrization of an old perforation by removing the epithelium covering its edges. Otorrhœa loses its offensive smell. Infiltration of the mucous membrane speedily disappears, it loses its porosity and succulence, its purple-red colour becomes pale red. Granulations disappear from the mucous membrane of the middle ear. It has little effect on larger polypi, which should be removed by other means. The different authors quoted obtained most encouraging results. The acid can be applied fused on to a wire loop, or by wool twisted to a probe dipped in it when liquefied. *Guild.*

Liebig, Dr. G. v.—*Treatment of Diseases of the Ear in Pneumatic-chambers.* "Münchener Medicinische Wochenschrift," No. 20, 1899.

Attention is drawn to the improvement noticed in cases of deafness amongst workmen when employed in chambers where the air-pressure is increased.

The increased air-pressure causes the veins and capillaries which are chronically enlarged to empty. In hyperæmia of the labyrinth it gives better results than drawing blood over the mastoid, or purgation. Improvement in tinnitus has also been noticed. The statistics given from different sources show that the improvement noticed at the time has been maintained after several sittings in these chambers. An exact diagnosis of the different forms of deafness so treated is not given, and he points out the importance of having this done. A chamber for treatment with increased air-pressure has been made at Reichenhall.

Guild.

NOTICE.

Sixth International Congress of Otology.

We are asked to announce that the photographs taken by Messrs. Fradelle and Young, 283, Regent Street, London, W., are now ready. The cost is 5s. 6d. each. We have seen the proof-copies, and we have no hesitation in saying that they are most excellent, and that the photographers have been successful in obtaining at one and the same time a group and a series of portraits.

THE
JOURNAL OF LARYNGOLOGY,
RHINOLOGY, AND OTOTOLOGY.

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**CHRONIC MUCO-PURULENT CATARRH OF THE ANTRUM OF
HIGHMORE SIMULATING POST-NASAL CATARRH.**

BY A. J. BRADY, L.R.C.S.I., L.R.C.P.I.,

Hon. Surgeon Department for Diseases of the Ear, Nose, and Throat, Sydney Hospital,
New South Wales.

LATENT abscess of the antrum of Highmore before the days of rhinology was but seldom diagnosed. The writer is of the opinion that there is still another form of chronic suppuration of the antrum of Highmore, which is not generally recognised by even expert nasal specialists, the train of symptoms to which it gives rise being attributed to post-nasal catarrh.

One of the most evident signs of chronic abscess of the antrum of Highmore is the presence of pus in the middle meatus of the nose, when viewed from the front, and its reappearance after being wiped away on suspending the head. Now, in the variety of antral disease under discussion pus is never seen in the anterior nares, even after inversion of the head. The patient complains of what he perhaps calls a catarrh of the throat. He is troubled by secretion coming down from the naso-pharynx, which causes him to hawk and expectorate. He may sometimes be conscious of a bad odour in the nose. Inspection of the anterior nares reveals nothing abnormal. By posterior rhinoscopy muco-pus will be seen in the naso-pharynx, sometimes in only small quantity. If a careful attempt is now made to trace the source of this secretion, it will be found to be issuing below the posterior end of the middle turbinal on one side. A thin rope of opaque secretion can often thus be

seen coming from below the middle turbinal, and passing above the Eustachian cushion on to the post-pharyngeal wall. Long-continued irritation set up by the presence of this secretion in the naso-pharynx may give rise to a diseased condition of the lining membrane of the space itself, and the surgeon, noticing this, may be misled as to the true nature of the case. In one of the earlier cases treated by the writer he made this mistake, removing by forceps and cautery portions of the pharyngeal tonsil which appeared diseased. Still there was no diminution of the naso-pharyngeal catarrh. During the frequent inspections which were made, the small tell-tale trail of opaque muco-pus coming from below the posterior end of the middle turbinal on the right side was found to be always present. Transillumination showed relative darkness of the antrum on this side. An opening was made through the canine fossa; thick muco-pus and a polypoid lining membrane were found in the antrum. In some cases transillumination may be misleading, the dark shade not being present. The writer has met with several cases where the quantity of secretion in the antrum was small, and none flowed away on making an opening in the canine fossa; but on passing a long strip of gauze into the cavity, and then withdrawing it, the gauze was found covered here and there with muco-pus in small lumps of a thick tenacious character. In such a case the curette will remove polypoid masses when applied to the lining membrane of the antrum. Exploratory puncture below the inferior turbinal in a case of this sort would probably give a negative result, the small quantity of secretion present and its thick nature preventing its passing through the fine cannula.

The only way to properly investigate this condition of the antrum and to cure the disease is to make a free opening in the canine fossa. In a case of persistent muco-purulent discharge from the naso-pharynx, where the secretion can be constantly traced as coming from under the posterior end of one middle turbinal, the writer considers this course justifiable and called for, although the other usual signs of antral suppuration be absent. The muco-pus is not always small in quantity; in some cases the antrum is quite filled with muco-pus and polypoid growths.

One naturally asks why it is that in some cases of antral disease the secretion always passes backwards into the naso-pharynx, and never appears below the middle turbinal in front, even after inverting the head. Local anomalies, such as a shelf on the nasal septum, may have an influence in this direction, but the nature of the secretion is probably the main cause of the direction of its flow. Instead of the thin, lemon-coloured pus which is found in the

anterior meatus, the secretion which passes backwards is thick and mucoid, and clings to the membrane uninfluenced by gravitation. Ciliary motion may have something to do with its backward course.

To show that this form of antral suppuration is not generally recognised, the following case, lately under treatment by the writer, may be quoted :

Mr. A——, aged twenty-seven years, three years ago, when travelling in Europe, suffered from an attack of influenza. After this he had some nasal trouble which led him to consult a rhinologist of acknowledged repute in London. This gentleman removed a septal spur on the right side. His after-observation of the case led him to suspect chronic abscess of the antrum of Highmore, for which he recommended an operation. This would not be permitted without a further consultation. Two other London specialists of high standing saw him in consultation with his former medical adviser, and both pronounced a decided opinion that there was no disease of the antrum present. No operation was performed. The patient visited health resorts on the Continent, and consulted several physicians. He continued to expectorate muco-pus, which was always present in more or less quantity in his throat. No discharge ever took place from the anterior nares. He began to lose flesh, and his condition was a cause of anxiety to his family, phthisis being feared. When examined by the writer, the anterior nares were quite free from apparent disease, except the remains of septal shelf on the right side. No trace of pus was to be seen, and none appeared after inversion of the head ; by posterior rhinoscopy a thin rope of muco-pus could be seen issuing below the posterior end of the right middle turbinal and extending above the right Eustachian cushion on to the post-pharyngeal wall. Transillumination showed the right side of the face and right pupil absolutely dark, while the left side of the face and left pupil transilluminated clearly. Abscess of the antrum of Highmore was diagnosed, and operation advised. The patient wished for further advice before consenting to this; he went to Melbourne and consulted two leading specialists, who pronounced the disease "post-nasal catarrh," and said there was no disease of the antrum. Finally, on his return to Sydney, he somewhat reluctantly consented to operation. Assisted by his colleague, Dr. Fiaschi, the writer opened the antrum through the canine fossa with Macewen's burrs driven by a S. S. White surgical engine. As soon as an opening was made pus flowed freely. The opening was enlarged, and the cavity curetted; large masses of polypoid tissue were removed, and the cavity packed with iodoform gauze. A metal stopper was afterwards worn for a

month, when, all trace of discharge being absent, this was removed, the cure being complete as regards the antrum. Dr. Fiaschi reports that there is still some dyspepsia and gastric catarrh, believed to be due to long-continued swallowing of the secretion from the antrum.

REMARKS.

The history of this case, one of a series, is given somewhat *in extenso*, as it seems to prove the hypothesis that there is a form of chronic muco-purulent catarrh of the antrum of Highmore which is not generally recognised. The main point in which it differs from the typical cases is that pus never appears in the anterior nares. The writer since using the engine and burrs to open the antrum finds it a great improvement on former methods. A large smooth-walled opening is made, and subsequent dressings are much less painful to the patient, as there are no jagged spicules of bone to entangle the dressings.

THE DIAGNOSIS AND TREATMENT OF CHRONIC EMPYEMA OF THE FRONTAL SINUS.

BY W. MILLIGAN, M.D.,

Surgeon to Hospital for Diseases of the Ear, Manchester; Aural Surgeon to the Royal Infirmary, Manchester.

THE practical difficulties attending an accurate diagnosis of chronic frontal empyema are of a twofold nature. In the first place there is the uncertainty as to whether the flow of pus which is visible by intranasal examination proceeds from the cavity of the frontal sinus itself or from one of the adjoining accessory nasal sinuses, the fronto-ethmoidal or the anterior ethmoidal cells; and, in the second place, the frequent absence of any localizing symptoms, such as pain, which might indicate, or at any rate help to indicate, the site of disease. In fact, in many cases the uncertainty is so great that an exploratory opening of the sinus is called for to establish what at the best has been a tentative diagnosis.

The line taken by outflowing pus from the two named accessory cavities is so similar for all practical purposes to that taken by pus flowing from the frontal sinus, that a degree of uncertainty remains as to whether one or more cavities are affected, and, if only one, which one.

As a diagnostic sign, I lay great stress upon the presence of pain, or at any rate of tenderness, when pressure is made just under

the supraorbital arch over the floor of the sinus, and in a direction upwards and inwards. To elicit this symptom the finger must be introduced well within the supraorbital arch, and not merely under the arch. In this way pressure is brought to bear upon the floor of the sinus, its thinnest wall, and if a careful comparison be made upon the two sides, useful information will at times be obtained. In several cases where tenderness has been found in this situation, and where no pain at all has been produced either by severe pressure or percussion over the anterior wall of the sinus, subsequent operation has demonstrated the presence of pus within the sinus. The character of the secretion flowing from the sinus is said by some to have a certain diagnostic value; this, however, has not been my experience.

The value of transillumination of the sinus has been highly spoken of by certain rhinologists. Not only is it regarded by some as a valuable adjunct in diagnosis, but also as a means of mapping out the boundaries of the sinus, an undoubtedly important point when operative procedures have to be entertained.

In many of my cases I have made use of this method, but the varying thickness of the bony parietes of the sinus, its anomalous forms and position, and its very varying depth from the surface, have not led me to regard it as by any means a certain method of establishing the diagnosis, especially when we recollect that bony growths, tumours, etc., within the sinus, offer a similar opaque medium to the passage of rays of light, just as the presence of a purulent collection does. At the same time, if in a given case, when pus is seen by intranasal examination to proceed from the region of the infundibulum, and when transillumination reveals an opacity over the area of the frontal sinus, the presumption is certainly in favour of the presence of a frontal empyema. Such objective appearances as polypoid hypertrophy of the anterior end of the middle turbinal, or an œdematous condition of the septal mucosa opposite this body, occur also in conjunction with empyemata of the fronto-ethmoidal cells, and hence have no special pathognomonic importance.

The position of our knowledge with regard to an accurate diagnosis of chronic frontal empyema at the present time appears to me to be capable of being summed up by saying that, although certain signs and symptoms offer strong presumptive evidence in favour of the presence of a frontal empyema, the diagnosis can only be verified by opening and inspecting the sinus.

The treatment of the condition opens up several points for discussion and argument. In the first place, when a patient presents

himself with the symptoms of a frontal empyema we have to consider whether palliative treatment will suffice, or whether a radical operation should be performed. The risks of pus pent up within the sinus must be carefully considered. Erosion of the parietes may occur, with subsequent perforation towards the cranial or orbital cavity; septic thrombosis of the adjacent cavernous sinus may result, or an embolic abscess may develop within the frontal lobes. These complications, although not frequently met with, do occur, and must consequently be taken into consideration in deciding as to the line of treatment to be adopted. In cases where no actual pain is present, but where there is persistent discharge of fœtid pus from the neighbourhood of the sinus, the condition may be much relieved by securing as free intranasal drainage as possible, *e.g.*, by anterior turbinectomy, by cauterizing all œdematous mucous membrane and polypoid or granulation tissue, and by the frequent use of alkaline and antiseptic lotions, and sprays of eucaine β or ichthyol. There is no doubt that in some cases the sinus may be washed out intranasally by means of Lichtwitz's specially constructed cannula, but the proportion of cases in which this can be done efficiently is so small, and the risks which attend the intranasal use of instruments in this region so great, that I think the method is to be discouraged.

Actual obstruction, or even stenosis of the duct sufficient to cause any marked retention of exudate, is, in my experience, not particularly common. Were it so we should hear much more frequently of severe attacks of frontal pain, tenderness on pressure, etc. What seems to me of more importance is a consideration of the pathological changes the mucosa of the sinus has undergone. In chronic cases, repeated bacteriological invasions give rise to changes which end in an increased formation of fibrous tissue, which may result in a narrowing of the whole sinus cavity and a partial obliteration of the fronto-nasal duct. Cystic degeneration, hypertrophies of the mucosa or polypi, may also develop. Hence in many cases, even if it were possible to keep the fronto-nasal duct perfectly patent, we could hardly expect a complete arrest of the suppuration, owing to the diseased state of the mucosa within the sinus.

When, however, discharge can be kept in check, and where no recurring attacks of pain, etc., are present, my feeling is that the maintaining of free nasal drainage is sufficient. When we come, however, to deal with those cases in which recurring attacks of pain, indications of cerebral irritation, failure of general health from septic absorption, obstinate neuralgic pains about the head or

the back of the eye, or failing vision are present, we have to consider the advisability of performing a radical operation. The advantage of opening the sinus or sinuses by a median incision appears to me to consist in affording a larger and more ample field for inspection and subsequent treatment of the floor of the sinus, but the scar subsequently left is undoubtedly more unsightly than when the supra-orbital incision is made.

In whichever way the sinus is opened, however, great care and trouble should be taken (1) to scrape away all cedematous, polypoid or hypertrophied mucous membrane; (2) to establish a very free communication with the interior of the nose; and (3) to fix within the sinus a drainage-tube which is sufficiently large to keep patent the large opening previously made into the nose. This drainage-tube should, I believe, be retained not for a few days, but for many weeks, until such time at any rate as all risk of the passage closing up, and subsequent retention of secretion taking place, is eliminated.

DIAGNOSIS AND ENDONASAL TREATMENT OF EMPYEMA OF THE FRONTAL SINUS.*

BY DR. GUSTAV SPIESS, Frankfurt-on-the-Main.

THE diagnosis of disease of the frontal sinus was a few years ago one of our most difficult tasks, but means for its recognition have so multiplied and improved that now we are able to state an exact diagnosis with nearly absolute certainty.

The subjective complaints as well as the objective symptoms, which latter can sometimes be very striking, will not be noticed in stating the diagnosis. The frontal headache, the sensitiveness to pressure, and even swellings may indicate the frontal sinus as the seat of the disease; but they are not to be trusted, as they may occur with other diseases. There are no premises which justify any conclusions.

There are three methods by which we may try to arrive at an exact diagnosis of the frontal sinus:

1. The examination of the nose. This makes the diagnosis a likely one.
2. Exploratory syringing through the natural opening in certain conditions may confirm the diagnosis.
3. Exploratory puncture from the interior of the nose absolutely certain.

* Contribution to the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association at Portsmouth. August, 1899.

With regard to the first method, it will be the task of rhinoscopy to ascertain in what part pus is to be seen and from where it is exuding. Corresponding to the end of the ductus naso-frontalis pus will be seen laterally under the middle turbinated bone.

In about half the number of all the cases (according to Zarniko's examinations) the ductus ends beside the hiatus semilunaris; pus will be seen sometimes more towards the front in the roof of the nose. But as the canal and the welling up of pus out of it can be seen directly only in the most rare cases, pus might originate also in an ethmoidal cell, possibly even in the antrum of Highmore. In order to better recognise the origin of suppuration, a proposal was made to first cleanse the nose thoroughly, remove crusts and pus, and then to put the head in such a position that the discharge can flow freely. Another method was tried, too—*i.e.*, Politzer's bag. The bag was used either to force out the pus or to aspirate it (Seiffert). But we must not rely too securely on any or all of these different methods. They cannot give us a definite explanation of the seat of pus, but they may help by making the pus visible which had before been hidden. However, I doubt whether, considering the small advantage air-compression will give, we should venture to endanger the ear.

Rhinoscopy has shown us so far that suppuration is present, and electric transillumination will now have its turn. As far as the examination of the antrum of Highmore is concerned it is of great use, but as regards the frontal sinus, I consider the results rather doubtful. When both frontal sinuses are opaque I can deduce nothing, or as little as when both are transparent. But if there is a difference between the two parts, we are indeed encouraged to think of a connection between the rhinoscopic discovery and the transillumination. But this we may believe no more, as according to Yohsen's personal examinations asymmetries occur frequently, and the sinus is wanting on one side in 20 per cent., and on both sides in 14 per cent.

We may ascertain the presence of a sinus frontalis by aid of the X rays. I cannot answer for this, not knowing how far asymmetries are to be recognised. Examinations of corpses are necessary for this. These, however, produce very different results from those of living bodies, owing to their easier transillumination.

I have met with only one case in which a disease of the frontal sinus had been suspected and an operation proposed, but where transillumination stated the absence of each frontal sinus.

When we have found pus in the nose, and when Yohsen's transillumination has given a positive result, and the X rays have

proved the presence of a frontal sinus, it remains to discover with the probe the ductus naso-frontalis and its opening into the nose. The probing, executed after copious application of cocaine, is rather difficult, as one has to probe not only a foramen but to pass through a canal which is only rarely accessible, and then only in its anterior parts. The length as well as the direction of this canal changes very much, generally, however, it runs backwards and downwards from above, and is 1.5 centimetres long. Corresponding to this shape, probes must be bent so as to allow a probing from the back to the front. Jurasz and Schutter used a plain catheter. The probe planned by Hansberg is curved at an angle of 125 degrees; the curved end has a length of 30 millimetres. Cholena has turned the exterior part of this probe towards that side which is to be probed. In the Lichtwitz probe, changed by him afterwards into a probe-catheter, the bending of the fore-end, 1 centimetre long, stands at a right angle—a way of curving patronized by Schech, with the alteration in length from 2 to 3 centimetres. Others (Killian, Engelmann, Bresgen) use probes curved like a bow with different bends; those used in successful probings are illustrated in the *Kranken Journal*. They may help to save renewed trials in later examinations. I consider it easiest to introduce probes bent in a semicircle.

A general valid direction as to how to execute probing cannot be given. We shall have to introduce the probe behind the middle turbinate, and along the direction of the infundibulum towards the front. The lighter the handling of the probe, the finer the sensibility which will determine the direction of the most minute resistance. We recommend to direct the probe at the beginning not too much forward by lowering it, but to raise the whole instrument a little, and then only to lower the handle.

Until lately it has always been very difficult to know whether the probing was successful, or whether the probe had not strayed off into one of the infundibular cells. If one succeeds in feeling the rubbing of the end of the probe against the anterior walls, there is no doubt at all; otherwise, one has to judge according to the length of that part of the instrument introduced into the nose. The distance from the nostril to the base of the frontal sinus is 60 to 70 millimetres.

A material control is supplied by the X rays. If we think that the probe has been accurately placed in the lumen of the frontal sinus, we shall see by the first look at the fluorescent screen whether the supposition is verified or not. One can follow the direction of the probe through the nose and its bones, and easily

recognise whether the probe-end lies in the frontal sinus or only in an ethmoidal cell.

Obstacles to probing are due in a great part to the middle turbinated, *i.e.*, omitting pathological changes and marked deviations. The middle turbinate may be in its anterior part so close to the lateral wall that it is hardly possible to introduce the probe. In such a case one can push aside by force the middle turbinate, lacerate it or resect the whole anterior part. Further obstacles can be formed by a well-developed bulla ethmoidalis; the higher position of the ethmoidal cells may be caused by the shape of the ostium frontalis and by a more or less serpentine form of the ductus naso-frontalis. The obstacles are so various and may be so invincible that probing will be successful hardly in half the number of cases. Cholena is leading with 60 per cent., but on the Röntgen screen we are able to recognise that in many a case in which probing had been believed successful the probe did not enter into the frontal sinus.

Inspection, transillumination, and probing may but render probable our suspicion of a suppuration of the frontal sinus, but they are not conclusive. The proof can be given only by pus being found on syringing.

The technique of syringing is quite the same as that of probing. Instead of the probe, we introduce a small tube to which one gives the same bend. As the ductus naso-frontalis in consequence of swellings is only so wide that a small tube can pass through, we recommend a forward and backward direction in the syringing, which must not be applied with too much pressure. In this way we facilitate materially the discharge even of thicker suppuration, and prevent the inner pressure, and the subjective sensitiveness from increasing too much.

But as we rarely succeed in probing, so is it with syringing. Sometimes we shall be able to penetrate only into the anterior canal, and yet we may succeed in syringing. In a negative case the result is only then decisive when the nose-wash flows also from the opposite side. This would be a proof that there is a communication between the two frontal sinuses, that the nose certainly would have carried pus along if such had been present.

If this does not happen, however, if syringing is not made with positive success, exploratory puncture is to be resorted to. The conditions here are quite the same as for the antrum of Highmore, and in order to arrive at a diagnosis conclusively we have to employ the same means.

The puncture of the frontal sinus was till recently regarded as

an impossibility, except in some few trial cases. In 1890 Schäffer described a proceeding for puncturing the frontal sinus from the nose. To recapitulate shortly: He presses into the posterior part of the base of the frontal sinus with a strong probe, going a little towards the front and the outside, between the middle turbinate and the septum. Winckler proposed to pass along the nose-ridge, and then to push forward laterally towards the frontal sinus. Allow me to quote Schäffer:

“Soon one hears a gentle crackling noise as if thin plates (*platten*) of bone were breaking; one feels from time to time a stronger resistance, but pushes the probe more forward, and at last feels by the probe suddenly gliding forward much faster that it has reached a hollow space.”

In order to avoid injuring the lamina cribrosa, which lies (according to Winckler) at a distance of 5·5 to 7·0 centimetres from the spina septi, Schäffer advises not to push in the instrument more than 5 centimetres.

Featau, too, has executed the artificial opening from the nose. He passed upward a straight needle immediately in front of the end of the middle turbinate between turbinate and lateral nose-wall, and then into the anterior ethmoidal cells. He believes that he avoids the danger of touching the lamina cribrosa by not advancing higher than $1\frac{1}{2}$ centimetres, and by taking great care not to let the instrument assume a median direction. All these attempts and proposals have met with but little notice. I cannot allow that this method can claim any practical use, considering that the proceeding was successful only seven times out of ninety-seven trials on cadavera, as is shown by Engelmann's work.

Besides, we have to consider what risks we run in adopting it. If we go up in the median direction with the middle turbinate, we run the risk of perforating the lamina cribrosa; if we go laterally to the middle turbinate, we risk injuring the lamina papyracea. The examinations of Winckler, Lichtwitz, and others prove, moreover, that only a small proportion of cases are suitable. Only in a few cases is the posterior part of the frontal sinus so thin that it can easily be pressed in. “If the pressing in with slight force does not succeed, the case is not fit for intranasal treatment.” Winckler adds: “In all those cases where palpation in the pars frontalis proves hard bones, probing (Schäffer's method) is to be omitted as a dangerous treatment.”

We can, however, easily face all these difficulties and dangers when we examine the proportions of space in the frontal sinus with the help of the X rays, and use puncture whilst they are applied.

I used for it a drill about 3 millimetres thick with the intention of using the opening for therapeutic washes. This drill, worked by electro-motor force, was able to perforate any thickness of bone, and I had no need to perforate at the thinnest place as indicated by Schäffer. Although the base thickness of the frontal sinus more towards the front may increase to 1·5 centimetres, I paid no heed at all to thickness of bone; my one intent was to bore in a straight line from the posterior margin of the nostril towards the middle of the frontal sinus lumen.

The operation is thus executed: After thorough and repeated application of cocaine a drill 3 millimetres thick is introduced into the nose, if possible as far as the nasal roof; then the room is darkened; the direction and position of the drill is verified on the Röntgen screen. The drill must be directed exactly to the centre of the frontal sinus lumen; of course one has to be careful not to be too near the anterior wall. As soon as the drill is in motion, one sees distinctly on the Röntgen screen how it advances slowly until it has entered into the open lumen of the frontal sinus. I thought it advisable to interrupt the boring whenever I found the bones very thick, in order to prevent the drill getting heated too much and consequently singeing the mucous membrane. At first I used a pointed drill, the cross-section of which represented a semi-circle; I now use a drill with a thorn in the centre. This drill attacks securely the place it has been applied to, whilst the former as well as the trephine, before they had really set in, were easily flung off, thereby unnecessarily lacerating the mucous membrane. Following upon the boring, I enlarge the hole by a cutting-engine, wishing to widen the opening on all sides, especially towards the posterior part. One may introduce into this bored hole also a turned trephine, and take off with it gradually towards the back the base of the frontal sinus. For exploratory puncture, however, the simple boring suffices, and syringing immediately afterwards.

The operation is generally a little trying. With careful application of cocaine pains are slight, and easily borne during the short duration of a few seconds. Hæmorrhage I have not yet observed among the ten cases I have operated upon; the bleeding-spot can, moreover, be easily plugged. Sometimes during the first days there is great sensitiveness in the nose, which aggravates the introduction of the small tube. The reason of this is that the rotating drill has injured the mucous membrane of the nose, or singed it by getting too hot. This latter can easily happen if one bores for too long at a time and does not stop sometimes.

After what I have communicated above I think I have proved

that puncture of the frontal sinus by boring under the X rays is, at all events, done easily, quickly, and with absolute certainty, so that a certain diagnosis can be made every time.

The only thing which might render the diagnosis doubtful is the nose-wash coming out from the opposite nostril at the same time. There are two possibilities to explain this: First, there might exist a communication between the two sinuses which I observed in several cases; secondly, there is the possibility that, owing to the septum being oblique, the opposite frontal sinus is opened. The wider the aperture of exit from the frontal sinus, the easier the infective bacilli will be driven up, especially when people suffering from a cold, originating from influenza, have to blow their noses. But the number of cases observed is as yet too small to permit more than a supposition.

A few words about *therapy*.

The acute empyemata are to be treated differently from the chronic. In an acute stage of the disease we must endeavour by all means to allow the pus to discharge freely. If we succeed by syringing from the nose, we must repeat it twice and three times a day. If syringing does not prove successful or insufficiently so, we shall have to proceed to endonasal trephining for the same purpose, *i.e.*, to render syringing possible. In most cases the severe subjective symptoms are subdued, and the empyema heals completely. But if more complicated and threatening symptoms show themselves, and temperature, pulse, or cerebral symptoms prove this therapy insufficient, it is urgent to open from without.

In chronic cases there is only one question of importance: Are the complaints so great that an external operation is justified? In a great number of cases this is not so, the more so as we have a remedy in endonasal opening and endonasal syringing to alleviate or cure entirely the subjective symptoms even if the empyema is not healed. At all events, I think that in chronic cases endonasal trephining ought to be first employed in every case, and an external operation only tried if success is not procured, and the patient insists upon operation. So long as external operation does not give absolutely certain results, I cannot conscientiously advocate it.

The isolated empyemata are, unfortunately, very rare. In most cases we have to deal with a combination of empyemata in the antrum of Highmore, the ethmoidal cells, and sometimes the sinus sphenoidalis.

In order not to go too far, I have abstained from discussing these combined empyema, well aware that in these cases the indications for operating from without would be more favourable.

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

LONDON, AUGUST 8 TO 12.

(Continued from page 550.)

A New Method of measuring the Quantitative Hearing-power by Means of Tuning-forks. By Dr. SCHMIEGELOW (Copenhagen).

Many experiments, he said, had been made in later years to find a reliable method. There were the methods of Hartmann, Gradenigo, and Zwaardemaker, which, however, could not be called satisfactory, as they did not give exact results. In order to use the time and vibration of certain tuning-forks in measuring the hearing power, it was necessary to know the vibration curve. If it were possible to measure the amplitude of each tuning-fork from the moment it was set in vibration to the moment when the tone died away, the difficulty in using forks as reliable tests of quantitative hearing would be solved. In the light of our present knowledge the amplitudes of the deeper forks only were measurable. Bezold and Edelmann had, by means of a very cleverly invented instrument, constructed vibration curves of the deeper forks (from D¹ to F), and from these they constructed a standard curve. They furthermore presumed that this curve, being almost the same in all the deeper forks, must be the same for every fork, even the highest ones. It seemed, however, said Dr. Schmiegelow, that Bezold and Edelmann had started from wrong conclusions, and that the result of their experiments did not agree with theory. According to theory, the amplitudes decreased at an approximately geometrical progression; that was to say, the logarithms of the amplitudes diminished directly with the time. This theory was no doubt correct, but only as far as the small amplitudes were concerned (Jacobson), or, in other words, the logarithmical decrement was greater and irregular at the beginning, but towards the end it became nearly constant. By a very carefully drawn mathematical diagram, Dr. Schmiegelow showed that in an examination of the curve found by Bezold and Edelmann it would be seen that the differences between the logarithms of the amplitudes corresponding to the time of 0-10-20, etc.,-100 seconds to begin with, decreased as they ought to do, but afterwards increased what they ought not to do. According to theory they should expect that the difference, after decreasing as it did to 0.151, ought to remain pretty nearly constant. The difference, however, increased again, which meant that for some reason or other the vibrations were impeded at an

FIG. 1

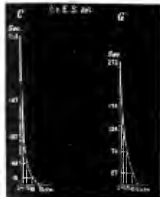


FIG. 2

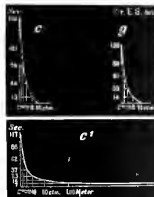


FIG. 3

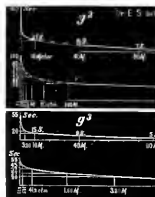


FIG. 4



FIG.

FIG.

FIG.

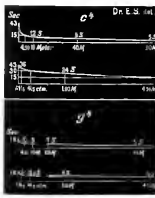
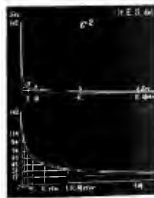
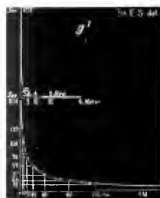


FIG.

increasing rate, and the curve therefore not correct. Everything tended to prove that the curve of the higher fork was different from that of the deeper ones, and that such fork had its own special curve. In order to find the curve of vibration for each tuning-fork G, Forchhammer and I proposed the following method: A tuning-fork is struck, and the time during which it is heard at different distances from the ear is determined. The abscisses of the curve represent the distances, the ordinates the time of perception. The correctness of this method, said Dr. Schmiegelow, was founded on the fact that the amplitude was proportional to the distance at which the tone disappeared, the intensity of the tone being constant when the "Hörschwelle" was reached of the moment at which the tone ceased to be heard. The method was also practicable, in so far that instead of the microscopic amplitudes the macroscopic distances were measured, an advantage which was all the greater because the amplitude of the higher tuning-forks could not be measured microscopically. The forks examined were made by Edelmann in Munich, and were C G, c g, $c^1 g^1$, $c^2 g^2$, $c^3 g^3$, all of them unloaded.

The experiments were made under as good conditions as could possibly be procured in the open air at some distance from town. If, for instance, they were going to find the curve of the c^1 fork (261 vibrations), they would proceed in the following way: By six series of experiments they found that c^1 properly struck would be normally heard for 7 seconds at a distance of 160 cm. from the ear, 14 seconds at a distance of 80 cm., 23 seconds at 40 cm., 37 seconds at 20 cm., 62 seconds at 10 cm., 88 seconds at 5 cm., and 117 seconds when held as close to the ear as possible without touching it. According to the theory, the differences between the time at a distance of 5-10 cm. and the distances 10-20 cm. should be the same, because close to the ear, where they had to do with small amplitudes, the time increased at an arithmetical ratio (with constant differences) if the distance diminished at a geometrical ratio. This theory was actually proved by the experiments. At the beginning of the curve (from 160-20 cm. distance) they found that the differences in time were smaller at the greater distances from the ear, that they increased up to about 20 cm. distance, and then became constant as far as the final part of the curve was concerned. The fact was that a tuning-fork did not emit the tone from the external surface of the prongs, but the vibrations were presumed to spread out from two points which were situated between the external surfaces of the prongs. By a series of experiments they had found that the distance between the tone centre

and external surface of the tuning-fork was about 1 cm. in the forks C G, c g, c¹ g¹, and c², whilst the distance was about 1.5 cm. in the forks g² c³ g³ c⁴ g⁴ c⁵. As the distances were reckoned from that surface of the prong which faced the ear, they must therefore add to the distance 5-10 and 20 cm., the distance of the tone centre from the external surface of the tuning-fork. With regard to the fork c¹ the addition would be 1 cm.

They were now able by means of calculated value of x and other experimentally found data to construct the curve for c¹.

If a patient heard the fork c¹, for instance, 7 seconds, the fork being struck powerfully and held close to the ear, it meant that the patient's minimum hearing amplitude, or his "Hörschwelle," was $\frac{160}{1.3} = 123$ times the normal for the distance. His hearing-

power $\frac{1}{(123)^2} = \frac{1}{15129}$ of $\frac{1}{123}$ times. If the normal hearing power is equal to 1, the reduced hearing-power would be equal to 0.00007. Supposing, on the contrary, the patient heard the fork 62 seconds, his minimum hearing amplitude would be $\frac{11}{1.3} = 8.5$ times the normal for the distance. His hearing-power $\frac{1}{(8.5)^2} = \frac{1}{72.25}$ times 1 normal $\frac{1}{8.5}$ times the normal, and = 0.0138 if the normal hearing-power was equal to 1.

In this way they were able to construct the curve of every tuning-fork, and thereby to find how much the hearing-power was diminished, if they only knew the time for which the fork was heard at a certain distance from the ear.

By comparing the curves of the different forks, they now saw how greatly they differed. Some of them—the deeper forks—were steep and short; others—the higher forks—were flattened and long. In other words, the assumption of Bezold and Edelmann, that the curves were always the same was not correct, and one employing their method could not get at reliable results. This could easily be illustrated by some examples. For instance, the forks c-g¹-c²-g³-c⁴. They were, according to his experiments, normally heard close to the ear during 328, 202, 162, 55, and 43 seconds respectively. Suppose they had a patient who heard these forks only for half the time, the normal hearing-power would, according to Bezold and Edelmann, for all hearing forks be equal $0.049 = \frac{1}{20}$. If, on the contrary, they used the special curve of each fork, the result

would be quite different, because they found that the decrease of the hearing-power for c would be equal to $0.026 = \frac{1}{39}$ of the normal hearing; $g^1, 0.0012 = \frac{1}{144}$ of the normal hearing; $g^3, 0.00006 = \frac{1}{17384}$ of the normal hearing; and $c^4, 0.000025 = \frac{1}{40000}$ of the normal hearing.

The enormous difference between the results given by this and by Bezold-Edelmann's method was obvious. He therefore believed that if one wished to use the time in which a fork was heard to measure the quantitative hearing-power, it would first of all be necessary to know the curve of the forks employed. In order to find these curves, he hoped the method he had given would be useful.

Dr. SCHMIEGELOW, replying to questions by Professor POLITZER and Dr. DUNDAS GRANT, said the experiments he had carried out were in connection with the mathematical aspect of the hearing-power. In the clinical world they had used the very good and practical methods of Dr. Hartmann, but he thought they were far from reliable. If they wanted to compare the result of the hearing-power by the different tuning-forks, and to know the influence on the voice, they could not get any certain basis to work upon. He was only as yet on the fringe of the question.

A Scheme for the Uniform Notation of the Results of Investigation of Hearing-power. By Professor Dr. GIUSEPPE GRADENIGO (Turin).

The method which he proposes have been already for some time used with good practical effects in the Clinic and in the Polyclinic at Turin. The language employed is Latin. The various experiments are indicated by the initial letters of the authors' names who have described them. Here is the scheme:

$$\begin{array}{c} \text{AD} \\ \text{S (18'')} \text{ W} \quad \text{R (+16'')}, \text{ H, Hm, Ht, P, v, V.} \\ \text{AS} \\ \text{AD} \\ \text{C c c}^1 \text{ c}^2 \text{ c}^3 \text{ c}^4 \text{ c}^5. \\ \text{AS} \end{array}$$

Explanation.

AD, AS = Auris dextera, auris sinistra.

S = Schwabach's experiment (c = 128 vibr.). Duration of normal perception with own tuning-fork c = 18".

W = Weber's experiment (c). An arrow designates the side towards which the lateralization takes place.

R = Rinne's experiment (C). Normal perception with own tuning-fork C = +16.

H, Hm, Ht = *Horologium*, watch per æer, ad mastoideum, ad tempora.

P = Politzer's acoumeter.

v = vox aphona, whispering voice; V = vox communis. conversational voice.

The results of the measuring of the hearing-power for the various tuning-forks are expressed in hundredths of the normal duration of perception.

The following example will better demonstrate the method :

S (18)+6 W	AD—9 R (+16)		prope	+	+	>5	0.30—0.15	>5
	AS—15"		H. 0.05	Hm, +	Ht +	P >5	v 2.00—1.00	V <5
AD	12	42	72	95	100	95	100	
	C	c	c ¹	c ²	c ³	c ⁴	c ⁵	
AS	50	80	87	95	100	100	100.	

Experimental Investigations on Acoustic Phenomena in Fluid Media. By Dr. R. KAYSER (Breslau).

The final sound-vibrations, Dr. Kayser said, which determine hearing take place in the cochlea, and therefore in a fluid medium. It has hitherto been impossible to investigate the conduct of vibrating bodies in fluids, because there has been no means of recognising with any ease the vibrations of a body in water. He said he had, however, found a method of overcoming the difficulty. It consists in the use of a telephone, which is so modified that the plate of metal is surrounded on all sides by liquid. (Dr. Kayser then gave a description of this water-telephone.) By means of this method it has been easy to prove that spoken sounds, or the sound of a tuning-fork in front of the plate, throw the metallic plate into feebler vibrations than when there is no water present. Low tuning-forks from C¹ downwards, and high ones from C⁴ upwards, are not heard at all. If we imitate the conditions in the ear, with two openings closed by means of membranes (fenestra ovalis and fenestra rotunda), and put one of these openings in communication (by means of a columella) with a membrane corresponding to the membrana tympani, the following takes place: If the second opening is closed by means of any unyielding mass so that a distension of the fluid outwards is prevented, then the production of a sound in the telephone is no weaker than when similar distension of the fluid is present. It thus appears to result from this experimental proof that the molecular vibrations of the auditory ossicles have a greater significance than they were credited with according to the theory of Helmholtz, at present held. Further, it is proved by means of the water-telephone that the diminution of the intensity of vibrations is increased in proportion to the bulk of liquid which lies upon the metal plate, and the degree of its viscosity. In glycerine or milk the diminution of the intensity of the vibrations is markedly greater than in water.

Professor LUCAE said: It is not surprising that the sound

should get weaker whenever you put a sounding tuning-fork into the water: it is new, however, that certain sounds, the higher and lower ones, should get lost. If you put a sounding tuning-fork into the water, the sound gets lower up to the extent of an octave. Whether the human voice gets so much lower too is the next question. Because the sound gets so much lower by the pressure of the water, it does not necessarily imply this.

Dr. KAYSER, closing the discussion, said: It is a well-known fact that the tuning-fork loses in height under water, but I do not know whether it is as much as an octave. However, with the telephone under water this could be easily proved. The tuning-fork is brought to sound under the water, and the receiver on the other end will give undeniable evidence. The lowering may be a fifth, but hardly an octave. The human voice is not influenced. It may be difficult to prove that actually, but so far I could not find any evidence of it.

A New Optic Method of Acoumetry. By Professor GIUSEPPE GRADENIGO (Turin).

If we paint at the end of one of the branches of a tuning-fork which vibrates with sufficient amplitude a distinct figure (say a tall triangle), this figure will appear more or less doubled. The duplicate images will overlap, the overlapping part being very

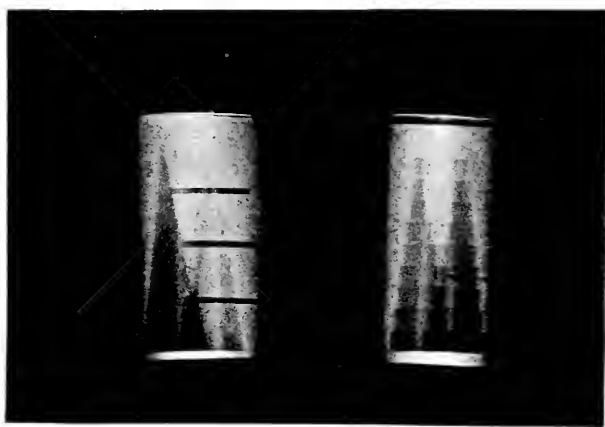


FIG. 1.

distinct in outline and colour (*field of double image*), while the separate portions will be much paler and less distinct in outline (*field of single image*). As the vibrations diminish in amplitude the "field of double image" becomes greater—the two images

gradually merging into one. The growth of the field of double image corresponds to the diminution of the amplitude of the vibrations of which it thus becomes a measure (*vide* Figs. 1, 2, 3, 4).

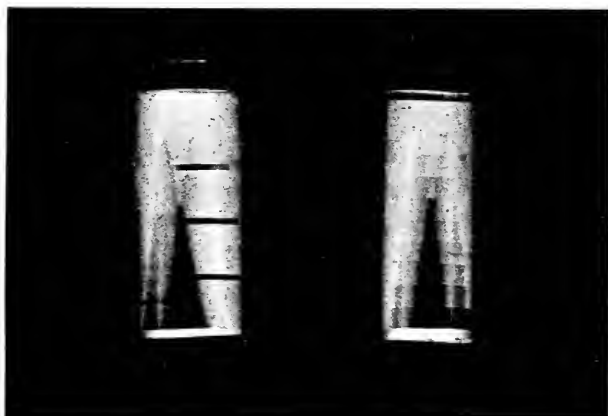


FIG. 2.

When we choose a figure in form of an inverted V (Λ), black upon white ground, and if we mark it transversely with lines or steps forming various segments (*models and photographs shown*), we can in this manner obtain an exact index of the amplitudes of

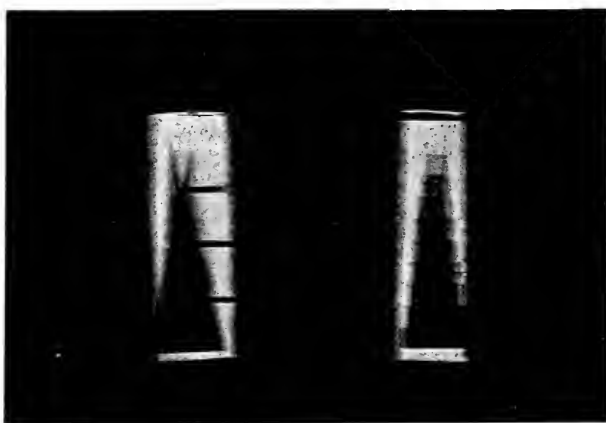


FIG. 3.

vibrations at any instant of the tuning-fork's decrement. Since the amplitude of vibration is directly proportionate to intensity of the sound, we have thus an excellent clinical method of acoumetry. Professor Gradenigo expressed his thanks to Dr. G. Ostino, Professor

C. Reymond, Dr. C. Gaudenzi, and Dr. O. Pes for their valuable help in these researches.

The best results are obtained with forks whose branches make wide excursions (up to 60 vibrations a second); but the method can also be used with forks up to 250 vibrations.

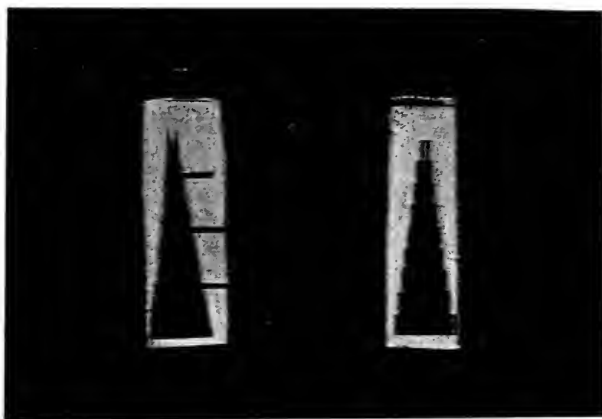


FIG. 4.

As the examination with low notes is of great value in the study of the affections of the sound-conducting apparatus, the method is very useful in spite of this limitation.

Of the facts which he had been able to elicit, he wished only here to refer to the two following ones :

1. In the vibration's period measured with the said method, the decrement of amplitude goes according to the geometrical progression in proportion to the time.

2. The individual mistakes in the appreciation of the duration of the sound-perception in persons not accustomed to this kind of researches—that is, in most of our patients—are much greater than one would believe without such a direct objective control.

Dr. E. COOSEMAN (Brussels) : *The Hearing-power of "Beetlers."*
Contribution to the Study of "Occupation" Deafness.

We have long recognised the injurious influence exerted on the organ of hearing by certain manual occupations carried on in the midst of a violent noise. Among these "noisy occupations" mention has not yet been made of the "beetler"—that is to say, of the worker in linen—who carries on his occupation in the midst of the noise of the "beetling" machine, composed of twenty metallic hammers, each weighing 100 kilos and giving 400 strokes in a minute. In the workshop of which the workers have been

examined by the writer, there are twenty machines of this kind or similar to them. When all the machines are working together we may calculate that they give 160,000 strokes in the minute. The noise thus produced resembles the continuous rolling of thunder, which shakes the workshop and everything in it.

The number of workmen examined amounted to seventeen. Most of them were seen a few hours after leaving the factory. All complained of hearing badly immediately after leaving off work; but the delicacy of hearing returned by degrees after two or three hours to such an extent that, after their Sunday repose, they felt that they heard almost as well as other people of their age.

The workers examined have been exposed to the "beetle" for a length of time varying from two to thirty-nine years, six days every week, from six in the morning to six in the evening.

The remarkable effect, which at first sight seems almost incredible, is that not one of them is absolutely deaf, even a man of sixty-one years of age, who has worked at the "beetle" machine for thirty-nine years. His hearing is absolutely normal.

In fourteen out of the seventeen the writer has detected various lesions of the nose, of the pharynx, of the ear, or the presence of inveterate habits of the abuse of alcohol or tobacco, which predispose to the diminution of hearing.

The author explains the innocuous character of the noise in question to the fact that it is extremely dull, although violent, and that it is continuous instead of being intermittent, as in many other occupations.

The writer has come to the following conclusions:

All noisy trades are not necessarily injurious to the hearing.

In order that they should be injurious the following conditions are necessary:

1. That the workmen should be predisposed to affections of the ear by the existence of lesions of the nose or pharynx, or else by inveterate addiction to alcohol or tobacco.
2. That the noise should be intermittent.
3. That it should be of a comparatively high-pitched tone.

D. G. (*Trans.*).

Dr. W. MILLIGAN (Manchester). *Some Observations upon the Diagnosis and Treatment of Tuberculous Disease of the Middle Ear and Adjoining Mastoid Cells.*

Mr. President and Gentlemen,—The widespread interest which has of late been manifested in this and other countries in the endeavour to check the ravages of tuberculous disease in its

numerous forms has an interest to the otologist, not only on account of the general merits of the case, but more especially on account of the frequency with which tuberculous lesions are met with in and around the middle ear.

The factors which come into play in producing tuberculous lesions of the middle ear and its adnexa are but imperfectly understood, and their investigation opens up a wide field for research and experiment.

Does the bacillus gain entrance to the middle ear by way of the Eustachian tube, or is it conveyed along vascular or lymphatic channels? What also is the relation between tuberculous nasopharyngeal adenoid vegetations and tuberculous middle-ear disease?

Questions such as these are not easily answered, and yet their solution must appeal to all as being of much importance.

For some years past I have been particularly interested in this subject, and as opportunity has presented itself, have endeavoured to investigate these questions both in their practical and in their scientific aspects.

That a large proportion of the cases of suppurative middle-ear disease with accompanying bone lesions met with in practice are of a tuberculous nature will, I think, be admitted by all. and that the prognosis in such cases is not very favourable will, I believe, be conceded by those who have had large clinical experience.

The characteristic features of tuberculous middle-ear disease may be somewhat masked on account of an accompanying pathogenic infection, and an accurate diagnosis may be impossible if one relies upon finding the bacillus of tubercle in the secretion from the middle ear.

Time after time it has been my experience to examine cover-glass preparations of pus from the middle ear for bacilli, and with negative results, although the tuberculous nature of the lesion has been proved beyond all doubt by means of inoculation experiments and by the subsequent clinical history of the case.

In my experience primary tuberculous lesions of the middle ear and adjoining mastoid cells are comparatively common, especially among the children of the poorer classes, and I believe also that secondary tuberculous infection from such a primary focus is by no means of infrequent occurrence.

Amongst causes which may be considered predisposing are the following: (1) hereditary tendency; (2) unhealthy environment; (3) unsuitable feeding; (4) exposure to infection from tuberculous relatives; (5) the presence of tuberculous naso-pharyngeal adenoids.

The relation of nasal obstruction to tuberculous middle-ear disease deserves special consideration. In many of my cases post-nasal adenoids have been present, and in a small proportion have themselves been tuberculous. The almost constant degree of Eustachian catarrh which their presence implies produces a soil which is favourable to the growth of the tubercle bacillus, and once it has found a footing in the middle ear the conditions favourable to its development are present, viz., a suitable soil, absence of light, a more or less uniform temperature, etc.

In the early stages these tuberculous foci appear as slightly elevated yellowish points in the mucosa, after a time coalescing and breaking down to form superficial ulcers.

Should the deposit occur upon the inner aspect of the membrane, perforation ensues. Such perforations may be multiple, and the destruction of tissue is usually quite painless. The edges of such perforations have a pale, indolent-looking appearance, and the accompanying discharge from the ear is usually thin, ichorous, and frequently fœtid.

Within the mastoid cells such deposits are also frequent, and I am inclined to think that in some cases, at least, the disease begins first of all within the mastoid, and subsequently spreads to the middle ear. At a very early stage the bone becomes affected, and undergoes an amount of destruction which is almost inconceivable, considering the comparatively slight external indications present. In some cases which have come under my observation practically the entire cancellous tissue of the mastoid—occasionally of both mastoids—has been eaten away, leaving merely a bony shell upon which the middle fossa is poised. Owing to this early and extensive destruction of bone, the facial nerve in part of its course is exposed, with resulting facial paralysis. In fact, early facial paralysis in a case in which sthenic symptoms have been absent should, I hold, always be looked upon with suspicion and as a probable manifestation of an underlying tuberculous lesion. Early implication and enlargement of the glandular structures around the ear is also a most important symptom, and when masses of enlarged glands occur around the ear any discharge from the tympanic cavity should be microscopically examined for bacilli.

To definitely establish the fact that the aural lesion is of a tuberculous nature the characteristic bacillus must be found. This may be an exceedingly difficult task, but in all cases it is worth while staining and examining the secretion from the middle ear.

Should no evidence of its presence be found in this way, small pieces of granulation tissue may be removed by forceps pressed

between two cover-glasses and stained in a suitable manner. Occasionally bacilli will be found in such preparations. The method which I believe gives the most reliable results, however, is the inoculation of guinea-pigs with small fragments of tissue removed from the middle ear or adjoining mastoid cells, and I believe that it is advisable to inoculate with fragments of bone and mucous membrane removed from an area where the disease is seen to be advancing. In many such cases when the mastoid has been opened for the purposes of treatment, a pultaceous-looking mass will be found filling up the cavity, but this material is practically valueless for experimental purposes, consisting as it does of broken-down tissue, inspissated purulent débris, and epithelial cells. When, however, it has been removed by means of a spoon and the underlying bone exposed, it will be seen where the disease is making progress, and from where a scraping of bone should be taken. In my experiments I have inserted a fragment of tissue obtained as above described into a guinea-pig's hind-leg just about the knee-joint, all hair having previously been removed by singeing with a platinum knife. A small pocket is now made with a sterilized needle, and the tissue carefully inserted. In a few weeks' time, should the tissue inoculated be tuberculous, the inguinal glands will be found enlarged, and as time goes on the tuberculous virus will be found to have spread over the animal's body, the glands and viscera being attacked in the following order, according to the results obtained by Professor Delépine :

During the second week after inoculation the lymphatic ganglia upon the same side of the body below the diaphragm and the spleen will be found enlarged.

During the third week, the liver, the mediastinal and the bronchial ganglia.

During the fourth week, the lungs, the cervical and the axillary ganglia.

After the fourth week some of the lymphatic ganglia of the opposite side of the body below the diaphragm become affected, but this takes place extremely slowly, and the sublumbar and popliteal glands escape for a considerable time.

Microscopic sections made from these glands, and stained for bacilli, will frequently be found to reveal their presence.

In this way a definite diagnosis of the actual character of the underlying lesion can be made, and the value of the knowledge thus obtained is naturally immense, both as regards prognosis and treatment.

The course of such tuberculous lesions is only too often a down-

ward one, despite the most elaborate and painstaking treatment. The practical difficulties encountered in removing tuberculous deposits within bone are immense, and in no region of the body are these difficulties greater than when tubercle attacks the temporal bone, for reasons which must be obvious to all here.

The complications which have to be feared are: (1) meningitis, (2) tubercular enteritis, (3) general marasmus.

The treatment of such cases must be considered from two points of view, according as it is non-operative or operative. Cases will be met with, especially in infants, where any operative interference will from the first be seen to be hopeless.

Such are the cases where marked debility and emaciation are present, where advanced facial paralysis and masses of enlarged glands have been early symptoms, and where the discharge is abundant, fœtid, and frequently blood-stained. In such cases palliative measures, antiseptic treatment, and, if possible, residence at the seaside, are indicated, but I am bound to say that in the majority of such patients whose cases I have followed an early death has been the usual history. The prognosis in such cases I believe to be essentially bad.

In other cases, however, where the present condition of the patient is good (and often enough it is so), and where the tuberculous lesion may be regarded as primary and local, much can be done by suitable operative interference. It is almost superfluous to say that the first and the main essential is to provide free drainage. This implies opening and cleansing the mastoid cells, and it is a remarkable fact how often in such cases, without any external and objective sign or indication, the mastoid cortex will be found extensively perforated, and a pultaceous mass immediately exposed to view. Under good illumination a very careful toilet of the part should be effected, and this can generally best be done by means of a sharp spoon. All softened and carious bone must be scraped away, and as smooth a cavity left as possible, even if this necessitates laying bare the dura and walls of the lateral sinus. The cavity thus obtained should be allowed to granulate from the bottom, and care must be taken to stimulate any sluggish area by means of applications of chloride of zinc, nitrate of silver, etc. Frequently more than one scraping is necessary as fresh foci of disease appear. In one particular case which came under my treatment some years ago, and where the cause was proved to have been feeding with milk from a tubercular cow, five separate operations had to be undertaken before the morbid process was eradicated, which, however, it finally was, and the child has now grown up a healthy and sturdy

boy. In very many of the cases the middle ear has been so extensively destroyed that its function as an organ of sense may be disregarded. Under such circumstances its contents should be freely curetted, and middle ear, antrum, and mastoid cells thrown into one cavity, and allowed to become obliterated by means of healthy granulation tissue. Where, however, a fair degree of hearing is present, efforts should be made to preserve the function of the organ so far as is possible.

An important point arises in connection with the treatment of the accompanying enlarged glands. Some of the glands may be enlarged purely as the result of septic absorption, and if the morbid cause be removed this enlargement will gradually subside, especially if aided by suitable treatment. But many of the glands are of a tuberculous nature, and are prone to undergo caseous degeneration, while at the same time they are a source of possible systemic infection. Hence I hold that after the mastoid area and the cavity of the middle ear have been attended to, and as soon as the condition of the patient admits of it, another operation should be undertaken with the object of removing these enlarged and tuberculous structures.

The facial paralysis which so often accompanies tuberculous disease of the middle ear is unfortunately usually permanent. Something may, however, be done by facial massage, and the internal administration of strychnia to assist in maintaining the tonus of the facial muscles.

General treatment, such as the exhibition of cod-liver-oil, iodide of iron, syrup of iodine, etc., is useful, as also is change of air and liberal diet. The general conclusions from a study of these cases may be summarized as follows :

1. That primary tuberculous disease in and around the middle ear is of fairly frequent occurrence, and that it most usually attacks the children of the poor, especially the poor of our larger cities.

2. That a generalized tuberculous infection may arise from a primary focus within or around the middle ear.

3. That the prognosis in such cases is not very favourable, at least 40 to 50 per cent. of the cases succumbing, even after operative treatment has been undertaken.

4. That in many of the cases operative interference is contra-indicated, owing to the extent of the existing disease and the asthenic condition of the patients.

5. That when operative interference is feasible, the main object should be to scrape away all available foci of disease and to provide efficient drainage.

6. That the best and the most reliable means of establishing the tuberculous nature of the disease is by means of properly-conducted inoculation experiments.

Dr. ARTHUR HARTMANN (Berlin) read a paper on *Congenital and Acquired Atresia of the Meatus Externus*.

Dr. Hartmann referred to previous reports on atresia auris congenita, which he considers should more correctly be regarded as absence of the external meatus.

He demonstrated two preparations with plaster casts of the rudimentary external ears of the same.

The first specimen was from a new-born infant, in which on both sides there was complete absence of the annulus tympanicus and membrana tympani, whilst the tympanic cavities and ossicles, though present, were not quite normally developed. In the second specimen, from an adult, the external meatus—i.e., the pars tympanica and membrana tympani—was completely wanting. The articular surface for the jaw was on the anterior surface of that portion of the temporal bone which normally forms the posterior wall of the meatus. In this case also the tympanic cavity, the ossicles, and the antrum mastoideum were somewhat abnormally developed.

These specimens were important in their bearing on the question of the operative establishment of an external auditory meatus in cases of atresia congenita. They showed that this was not possible.

It is well known that even with both meatuses absent, hearing and understanding of speech can exist.

Reports of complete acquired closure of the meatus were rarer than those of congenital absence of the meatus. Dr. Hartmann reported a case he had seen in which after diphtheritic-scarlatinal otitis the ossicles on both sides came away, and later complete bilateral bony occlusion of the meatus supervened.

Sufficient hearing-power remained to prevent the onset of deaf-mutism, loud speech being heard. On one side the meatus was restored by operation. After turning forward the auricle the new-formed bone was chiselled away, and the cavities of the middle ear laid bare, as in the radical operation. The meatus was covered by means of Körner's flaps. Healing was very slow. The hearing was considerably improved.

In the discussion which followed Dr. Holinger (Chicago) said that the paper was very interesting to him, because he was at present faced with the question whether to operate in such a case. In examining 510 children of the Institute for the Education of

the Deaf and Dumb, in Jacksonville, he found a girl of fifteen with absence of both auditory canals. The girl was growing more and more deaf on account of constantly recurring attacks of otitis media. The first attack came on after scarlet fever, and the pus broke through the mastoid. The question of operation answered itself. He should operate in the following way. He should chisel behind the auricle down to the middle-ear, and remove the malleus and incus. He should allow the wound to granulate and then cover, according to Siebenmann, with Thierch's grafts. Thus he should create a canal behind the ear. The operation would be to improve hearing and to stop the recurrence of the suppuration.

Dr. Hartmann, closing the discussion on his paper, said: It is not advisable to operate on such cases as long as there is no inflammation. I do not believe that an operation according to Professor Siebenmann will improve the hearing power. If there is recurrent inflammation, as in the case of Dr. Holinger, we may proceed as he advised.

Professor V. UCHERMANN (Christiania) read a paper on *Rheumatic Diseases of the Ear*.

Mr. President and Gentlemen—Rheumatic diseases of the ear are but little known and seem to be rare. The symptoms are apparently not sufficiently distinct, nor the etiology so clear as to establish a safe conclusion with regard to cause and effect. Still, I am of opinion that a closer investigation of the matter will enable us to recognise certain common features, symptomatic and pathological, by which a clinical diagnosis of the special cases can be made or rectified. To attempt this, and at the same time to draw the attention of my colleagues to an interesting group of ear diseases as yet little known, is the aim of this paper. At the outset we are met with the old difficulty, What is rheumatism? The answer from an etiological point of view appears to be more unsatisfactory than ever. Infection admitted, is it a specific infectious disease, or is it only a kind of pyæmia dependent upon one or more pyogenic bacteria? Whatever the case may be, we have the clinical picture, which cannot be dispensed with. As we are well aware, the characteristics of the disease are—its tendency to attack the connective tissue (fibrous or muscular) and its endothelial-lined cavities, and to form fibrinous exudates and infiltrates. In this way it appears in the joints, muscles, heart, skin, etc. In addition to this there is its painfulness in certain localities, also its being acted upon by salicylic acid in acute forms, by atmospheric changes in chronic forms. It is necessary to set

aside all cases whose only claim to being rheumatic is that they appear to have arisen after a rheuma—that is, a cold or catarrh. To this class belong, for instance, many of the so-called rheumatic cases mentioned by Gradenigo in his labyrinth diseases (Schwartz's Handbook). It is also necessary to differentiate between acute and chronic forms. Among the former the best known are the polyarthritis acuta (rheumatic fever), acute muscular rheumatism and erythema nodosum: among the latter, the chronic rheumatic muscular and joint diseases. All the rheumatic ear affections that have up to the present been described belong to the acute forms of rheumatism appearing as complications of rheumatic fever. Ménière (*Revue Mens. d'Otologie et Laryngologie*, November, 1883) mentions a case where otalgia, in the form of severe intermittent pain, preceded by four days the attack of ordinary acute polyarthritis. A similar case is given by Wolff (*Verhandl. der Otiatrischen Section der Wiesbadener Naturforscher Versammlung*, 1887), who also adds that the joints of the ossicles can be affected. The clinical or pathological proof, however, is not given. In both cases the appearance of the drum does not seem to have been altered. Moos has observed a case of apoplectiform (Ménière) deafness during the period of convalescence after acute rheumatic fever, complicated with endocarditis (perhaps embolic). In a second case various cerebral hyperæsthetic symptoms appeared with attacks of pain and hyperacusis in the eighth and ninth weeks, hardness of hearing ending in total deafness (Schwartz's Handbook, tome i., p. 544). Among the deaf-mutes in Norway is a case where an examination of the ear points to the existence of a combined middle-ear labyrinth affection caused by this disease (Uchermann, "The Deaf-Mutes in Norway," vol. i., p. 446).

I have seen two cases where ear affection preceded ordinary rheumatic fever. Both cases were of adults; one a lady twenty-five years of age, who had had rheumatic fever several times before, the other a gentleman of thirty-five, of very rheumatic disposition. In both cases there was an acute inflammation of the middle ear, with marked injection of the drum, abundant secretion of serous or sero-fibrinous fluid, together with quite an unusual amount of pain, both spontaneous and when touched, which continued even after the opening of the drum. In the case of the lady, during the fourteen days before the beginning of the fever, an infiltrate formed on the posterior wall of the bony meatus, involving the adjacent part of the drum, of the size of half a pea, red and very sensitive. In the man's case there was a swelling of the posterior part of the drum, also a more diffuse swelling and sensitiveness of the septum cartila-

gineum nasi on the same side, with superficial (catarrhal) erosions. In both cases the ear affections healed after eight days with the beginning of rheumatic fever, possibly the result of paracentesis and salicylic acid, though the swelling of the septum did not disappear for several months, and caused considerable impediment to the nasal respiration.

But there are also other cases where the rheumatism from which the ear affection arises is of a chronic character, and where the ear disease itself runs a course less acute and violent, but sometimes for the organ itself more fatal. In the case of a young man about thirty, with a marked rheumatic history, I have seen without any apparent cause, and alternating with rheumatic affections of the throat, a bilateral, so called, otitis media serosa, that is, a collection of serous or sero-fibrinous yellowish fluid in the tympanic cavity, with the slightest inflammatory signs. The case ran a slow course, but finally yielded to repeated incisions of the drum. I venture the hypothesis that many of the cases of serous middle ear affections, especially those marked by yellowish or amber-coloured exudate, are rheumatic in origin or foundation, and that treatment with salicylic acid should be tried before any surgical intervention is resorted to. In another case, that of a young, plethoric man about thirty-four, the symptoms when I first saw him (February, 1895) were the following: he complained that for a year he had suffered from tinnitus aurium and deafness of progressive character, which latterly had greatly increased. He experienced no dizziness, and hitherto he had enjoyed good hearing and freedom from ear-troubles. Occasionally he had felt rheumatic pains, but otherwise had never had a disease of any consequence. On examination the right drum revealed a small round cicatrix (as big as a shot); in the upper and hindermost quadrant there was a little dulness, but no retraction, the left drum being also dull and not retracted. Both the drums were movable by Delstanche. By auscultation the left ostium tubæ Eustachii was found narrower than the right, otherwise nothing was abnormal. From the left ear the hearing of speech was gone. He could neither hear No. 64 of Appun's set of tuning-forks (64 double vibrations in a second) nor Galton's whistle. Rinne was $-5'''$, Schwabach much shortened ($-$). On the right ear Rinne was $+5'''$, Schwabach was $-$. The deeper tuning-forks were heard more distinctly than the higher, the Galton not at all. On this side he heard words spoken in a loud voice at a distance of from 3 to 4 inches. In spite of internal treatment with salicylic acid and iodide of potassium, together with local treatment (leeches, injections of iodide of potassium and pilo-

carpine, massage (Lucae, Delstanche)—after a couple of months he was completely deaf. At his repeated request at last I tried a stapedectomy on the left ear. On probing, the stapes at first gave the impression of immobility, but by traction became loosened, and then was immediately replaced. The only result was considerable giddiness for a month, during which time he had to lie quite still on his back. At the same time he had rheumatic pains in the right shoulder. About a year later there appeared a reddish, fluctuating swelling of the left eyebrow and upper eyelid, with its seat in the periosteal tissue. By incision I removed about a teaspoonful of sero-fibrinous fluid, upon which the swelling disappeared. A year after, however, it reappeared in nearly the same place, and yielded to the same treatment. On this occasion there was also a swelling over the left tuberositas frontalis. Last year he called on me for a nose affection. There was a dry catarrh of the anterior part, with a formation of crusts and a dry perforation of the cartilaginous septum of considerable size. It had developed since the last time I had seen him, and proved very stubborn under the ordinary treatment. In connection with this case I might mention two similar affections of the nose that have come under my notice; one the case of an elderly man, very rheumatic, who eventually died of rheumatism (articular, etc.), owing to general exhaustion. The other a case now under my treatment, where there is no perforation, but the pale, swollen mucous membrane is specked with white fibrous (sclerotic) spots.

It is then a case of what is commonly called secondary sclerosis, with involvement of both the labyrinthean bony capsule and the nervous elements. The history of the case and its accompanying symptoms make it fairly certain that it is of rheumatic nature, and, like the affections elsewhere, bound to the connective tissue. For instance, a swelling of the lining of the canaliculi for the N. cochlearis and the lining of the vestibulum, with the result of more or less fixation of the stapes, will easily account for the acoustic phenomena. While with regard to the bone (labyrinth capsule) the result may be an eburneation (though with the preservation of the greater cavities—vestibulum, scalæ, etc.), or may be, in some cases, the apparent reverse, a rarefaction ("spongiosisirung," Siebenmann). To sum up:

1. Rheumatic fever is sometimes preceded, sometimes accompanied, by otalgia, alone or together with an acute swelling and injection of the drum and the adjacent bony meatus, followed by a serous or sero-fibrinous secretion of the middle ear (otalgia, myringitis, otitis externa, otitis media *rheumatica*), or it may be com-

plicated during its progress with affections of the middle ear and the internal ear (labyrinth, perhaps the auditory nerve).

2. There are other more independent rheumatic ear diseases with persons of a rheumatic constitution or tendency (previous rheumatic fever, etc.). The ear affection appears as an otitis media serosa with yellowish, half-fibrinous exudate, or as a (secondary) sclerosis with progressive character.

3. The characteristics of the different forms are: In the *acute* forms—painfulness, excessive injection, and the tendency to the formation of fibrinous exudates. In the *chronic* forms—the tendency to the formation of fibrinous exudates, and the tendency to affect the bony capsule, with severe tinnitus and slow but steady progression. Salicylic acid seems to influence the acute forms but not the chronic. These latter, judging from the experience of a case at present under my treatment, are perhaps more influenced by a general rheumatic treatment.

In the discussion which followed Dr. HARTMANN said: The paper of Dr. UCHERMANN reminds me of one patient who probably comes in this line. A man slept one very cold and wet night in the woods; when he awoke he found he had completely lost his hearing.

Dr. UCHERMANN, closing the discussion, said: It is possible that Dr. Hartmann's case comes in this line, but we will have to differentiate between acute catarrhal inflammation of the ear and rheumatic inflammation of the middle ear. One is easily accessible to treatment with salicylic acid, the other is not. Furthermore, in rheumatic cases we always find other manifestations of rheumatism; exceptionally, rheumatic otitis shows infiltration and exudation in the ear alone.

Dr. E. J. MOURE (Bordeaux) read a paper on *A Case of Cerebral Abscess consequent on Acute Suppurative Otitis Media*.

When the patient presented himself for examination he complained of very acute pain, which had set in on the seventh day of his disease. In addition he had vertigo and depression, but no vomiting, and no interference with speech; the mind was clear, and the temperature was normal. On the other hand, he had right homonymous hemianopsia, and word-blindness with aphasia and verbal amnesia. These symptoms were confirmed by Professor Pitres, who made the diagnosis of cerebral abscess in the neighbourhood of the curved convolution.

In presence of these distinct cerebral complications, Dr. Moure operated on January 4, 1899. The bone was congested, the mastoid

process being full of fungous granulations right up to the tympanum. A free communication between the antrum and the tympanum having been made, it was seen that the roof of the antrum was necrosed, and that a small hard sequestrum separated the cavity from the brain. This sequestrum was removed, no pus escaped, and the meninges appeared healthy. As the diagnosis indicated an abscess of the brain situated in the region of the cuneus, an opening was made in the upper part of the temporal bone at about $3\frac{1}{2}$ centimetres above the auditory canal. The opening into the skull measured about 3 centimetres in diameter. A crucial incision was made through the dura mater and the pia mater, producing slight hæmorrhage, which was easily arrested by compression. A fine bistoury was thrust about 3 centimetres backwards and a little upwards into the cerebral substance, but this puncture was immediately followed with a considerable spurt of blood, as if the sinus had been widely opened. Compression with gauze was maintained for some time while the antrum and tympanic cavity were being dressed. When this was finished the cerebral compress was removed, but the hæmorrhage recurred so abundantly that it was impossible to continue the operation. A plug of gauze was therefore placed at the opening into the brain, and the hæmorrhage was easily arrested in this way.

Next day the general condition was good, the patient talked freely, but had paraphasia, and the general sensibility was almost abolished on the side opposite to the lesion. The right arm was also somewhat paretic.

A few days later the patient was again anæsthetized, the plug was removed, and it was then easy to see that the pulsation of the brain was normal. The skin was joined in order to avoid cerebral hernia, and a piece of gauze was left in the brain.

On January 10 the sensitiveness had returned, the general condition was good, and there was no fever. Dr. Moure was obliged to be absent for some days, and the patient was dressed regularly until January 15, when the dressing was found saturated with pus which had run even on to the shoulder of the patient; in fact, the cerebral abscess had emptied itself by the orifice made through the brain. The hemianopsia had disappeared. A rubber drainage-tube was placed in the cavity. Improvement went on until January 24, when the patient complained of the dressing hurting his head, and on removing it a cerebral hernia was found of the size of a small Tangerine orange. On January 26 the patient became comatose, and died suddenly in the evening.

At the post-mortem it was easy to see that there was an

abscess which had opened externally, and which opened into the ventricle, causing the patient's death. The abscess, in fact, was found at the level of the curved convolution, but it was not surrounded by a limiting membrane, so that the flow of pus was followed each time by a certain quantity of cerebral material, and hence the ulcerative process which had unfortunately caused the death of the patient.

The case is interesting because of the considerable hæmorrhage which followed the puncture of the brain, and which was probably the result of opening a very congested vein—a vein which probably accompanied a deep cerebral sulcus. It is also interesting because of the slight symptoms of reaction which followed this abundant hæmorrhage and the consequent plugging. Finally, the case proves once again that abscesses of the brain are always serious when they have no limiting membrane, and that when in doubt it is preferable not to make any injections.

Dr. DELIE (Ypres) read a paper on *A Case of Panotitis; Cerebral Complications; Death; Post-mortem.*

A patient, aged forty, presented all the symptoms of chronic inveterate neuralgia of the right trigeminal. Deafness declared itself, and was found to be due to an exostosis of the right external auditory canal. An operation restored his hearing, but produced no change in the right hemicrania. A few days later symptoms of acute mastoiditis declared themselves, accompanied by vertigo, and a hardly perceptible otorrhœa. A Stacke's operation showed the only lesions to be purulent infiltration of the external wall of the apophysis, and a small polypus in the attic. The patient died comatose a few days afterwards.

At the post-mortem examination the following lesions were discovered:

A purulent infiltration in the bony roof of the right middle ear.

Acute meningitic lesions limited to the anterior surface of the bulb, spreading from the side of the affected ear to the inner third of the cerebellum, and compressing on the left side all the meninges which covered the left side of the cerebellum. There was pus in the fourth ventricle and in the left lateral ventricle. The left ear was free from any pathological lesion, and the same could be said for all the other parts of the endocranium and its coverings, as well as for the skull.

Professor V. GRAZZI (Florence) read a paper on *A New Treatment for Chronic Catarrhal Inflammations of the Pharynx connected with Diseases of the Ear*.

After referring to the frequency of chronic catarrhal pharyngitis and the inefficiency of all the methods hitherto proposed for its treatment, the author discussed the varieties and different degrees of the affection. He exhibited some microscopic preparations in order to show the normal structure of the pharynx, and the alterations produced in it by chronic catarrh with hypertrophy of the adenoid tissue. The structure of the pharynx itself suggested to him the method of treatment under consideration—a method which consists in the compression or crushing of the diseased tissues. Consequent on these manœuvres, repeated more or less frequently, the tissues become less inflamed, the granulations are reabsorbed, the function of the glandular tissue is re-established, as well as the circulation in the bloodvessels and lymphatics.

Professor Grazzi carries out this treatment by means of small metal probes bent at a more or less obtuse angle, the small probes ending in a kind of fork into which are fixed small rollers. These are pressed up and down on the pharynx with more or less force, according to certain indications mentioned by Dr. Grazzi, and have been found very useful in certain cases where the disease had spread to the middle ear. The instruments were demonstrated at the Congress.

Dr. LOUIS BAR (Nice) read a paper on *The Diagnosis of Anterior Abscesses of the Mastoid, and of Furunculosis of the External Auditory Meatus*.

Otologists are agreed that they sometimes find it difficult, if not impossible, to make a diagnosis between abscess of the limiting cells of the mastoid process and furunculosis of the meatus externus. In such cases a reasonable diagnosis can only be made from deductions drawn from a perfect acquaintance with the anatomy and physiology of the region, and at the same time from the general aspect and progress of the case. The following deductions may be drawn :

1. That early lymphangitis and periauricular adenitis are the rule in all furuncular affections of the meatus, and are late and exceptional in purulent inflammations of the limiting cells. This is consequent on the difference between the lymphatic systems of the external and middle ear.

2. That perimastoid œdema effaces the retro-auricular depres-

sion in furunculosis, whereas in mastoiditis the retro-auricular depression persists and remains circumscribed.

3. That the pharyngeal plexus may become visible through venous stasis induced by the mastoiditis.

4. That, in consequence of the different innervation of the tympanum and the meatus, spontaneous pains and sensitiveness are more acute in furunculosis; they are less marked in general in anterior abscess of the mastoid.

5. That also, for neurological reasons, in inflammation of the anterior cells facial paresis is sometimes observed, as also an exaggeration of the sense of taste, and a peculiar sensitiveness of the pharynx and end of the tongue.

6. That the bacterial nature of the pus is different in the two diseases.

7. That, in the absence of any febrile condition, a continuous disproportion between the pulse and the temperature is in favour of mastoiditis.

Dr. RUTTEN (Namur) showed an *Exostosis of the Right Auditory Meatus*.

The osseous anomaly was remarkable for its larger size. It measured 15 millimetres in length, and 12 millimetres in thickness. It filled the external meatus so completely as to prevent the introduction of the very smallest probe between the cell and the tumour. Besides, by its compressure, the excrescence had destroyed the skin and caused an osteo-periostitis of the canal. This secondary suppuration, complicated by the retention of pus in the middle ear with the commencement of cerebral symptoms, compelled the patient to let himself be operated upon.

The exostosis is remarkable, in addition to its extraordinary size, for the long time it had been in the ear without causing any trouble. Its slow development had taken place unperceived. The patient was thirty-eight years of age at the date of the operation; he was a cooper by occupation, had served in the army, and had never suffered from running from the ear. Seven years before the operation he had consulted Dr. Rutten for deafness. At that moment the exostosis already completely obstructed the meatus, and the patient was much astonished when he touched with his little finger a hard body which was only distant a few millimetres from the entrance to the ear. He had never suspected its presence. At that date the operation proposed was declined, although the dangers of suppuration were pointed out, complications which, as a matter of fact, set in seven years later. One might therefore

safely say that the tumour had been fifteen to twenty years in developing.

The exostosis, of the consistence of ivory, was pedunculated. It was covered with a thin transparent skin, and was implanted on the postero-superior wall, occupying the whole bony part of the canal. Under an anæsthetic it was removed with the gouge, without turning down the auricle. The result of the operation was immediate restoration of hearing and cure of the otorrhœa.

Dr. SARGENT SNOW (Syracuse, N. Y.) read a paper on *Twentieth-Century Prognosis in Chronic Catarrhal Deafness*.

Gentlemen, the unfavourable but time-honoured prognosis given chronic catarrhal deafness has made it a subject rather shunned by modern writers, but the importance and frequency of the problem impels me to place before the Sixth International Otological Congress a few of more hopeful conclusions born of my personal experience.

For many years this affection has baffled the skill of foremost otologists, each apparent success being overcome by the progressive nature of the disease, until gradually it has taken a place in the list of non-preventable and incurable maladies; even now it does not seem safe to assume that those almost totally deaf can be improved, but, colleagues, we must admit that recent advances have changed our prognosis in other conditions. Why not in that great body of chronic catarrhal cases where, for instance, words in a forced whisper can still be heard 10 inches or better?

During the past ten years I have been consulted by many people whose deafness, by tests, duration, and degree, was surely the result of a chronic catarrhal state, and whose intelligence enabled them to appreciate the whys and wherefores of the persistent line of treatment necessary in such deep-seated cases. A large number have been under observation five, three, and two years, giving a good opportunity for impartial judgment on the methods in vogue at the present day, and I feel certain that the general principles of treatment as employed by advanced authorities, "that all pathological conditions within the nose and naso-pharynx must first be removed," etc., are correct and reliable.

Anatomical and physiological study has shown the intimate relation of the nasal and aural membranes both by continuity and sympathy; what benefits one is in the right line to benefit the other, whether we have to deal with a hypertrophy or a sclerosis. The idea is rational and it is my experience, and a thought that led me to select this subject that the reason we still have so many

failures is, that either we have overlooked some point of obstruction or contact in the upper portion of the nose that is acting as an irritant, or we should go further, and advise our patients to submit from year to year, if necessary, to hygienic care and a tonic treatment with stimulating vapours to the tube and middle ear.

Of late we have been led to expect too much from purely nasal operative work, when with 80 per cent. of such cases recurring catarrhal inflammations yet remain as an important causative factor. In early adult subjects, where the deafness is of only one or two years' standing, it is true that the removal of turbinate pressures, ethmoidal disease, or adenoids may be followed by good results without special attention being made to the middle ear. But with those cases giving a history of five, ten, or twenty years' impairment of hearing, we are sure to find that the inflammatory action within the ear and Eustachian tubes will continue if we do not also institute a thorough and persistent course of after-treatment.

Chronic catarrhal deafness is a preventable disease. In every one of these patients we will find, besides their nasal trouble, some functional disorder or an habitual and gross transgression of Nature's laws. Unseasonable clothing, improper diet, poor portal circulation, warm baths, exposure to draughts night or day, and too little arm exercise are among those most prominent, and it is against these our great fight has to be made. I say "great fight," for here our judgment and skill are most taxed: these errors must be corrected, their surface reaction improved by cold baths, and each habit scrutinized, for when membranes have once been in a state of chronic congestion, dietary and other excesses or the taking of a slight cold will produce a profound impression on the already weakened bloodvessels.

A few patients afflicted with chronic otitis media give no history of nasal trouble, but we will invariably find the post-nasal or Eustachian membranes in some stage of inflammation or atrophy, frequently pale and relaxed, but very sensitive. This class need little operative work, but the parts require stimulation. Their life must be looked into, and so regulated that they are better able to resist colds and throw off congestions; even those showing sclerotic states are capable of some improvement.

Assuming that our patients are sensible and intelligent people, it is just and expedient that we go quite into detail in explaining Nature's method of repair, and the different steps of treatment. No further encouragement or promise is necessary if we make the points clear. An ignorant, unreasonable patient is not a favourable

one, for he fails to appreciate the obstacles to be overcome, and the great need of regular and careful attention. I believe that our best policy is to be honest. Surrounded as these people are by bad climatic influences, and tempted by the good things of life to an unhealthful indulgence, we do wrong to encourage them in thinking that they will have no relapses; but we can assure them that their relapses will be much more tractable and easily subdued if their membranes have once been relieved of abnormal conditions.

To get favourable results in chronic catarrhal deafness, it is absolutely necessary that we, first, do most thorough nasal work; second, study habits and environment, correcting all that tend to induce recurring congestions of the membrane; and third, give persistent treatment to the middle ear and watch the general health.

When all removable causes have been taken care of and the parts healed, a vapour of camphor and iodine by interrupted jets applied through the Eustachian catheter serves well the treble purpose of strengthening relaxed or atrophied membranes, increasing ossicular mobility, and absorbing inflammatory products. These treatments should be gauged according to the individual case in hand. Some every day, some twice a week, but each with the most particular care, using the auscultation-tube to make sure that the vapour reaches the tympanic cavity until the relaxed bloodvessels are toned up, and we cease to get more improvement in the hearing.

A rest from active treatment can then be permitted, but the patient should be instructed to report again as soon as an increase in deafness is noted. These periods of rest may become longer and longer until three to six months are allowed.

An interesting feature is that, many times after these periods of rest, we can press the improvement further than at our previous attempts seemed possible, and to a point where the disease is surely under control or good hearing established. Protracted effort with the stimulating vapour is a great aid in this last portion of the treatment, and we find that Nature's power to regenerate membrane and function is truly wonderful if tonic applications are steadily made.

Chronic catarrhal deafness in itself is not so formidable a disease, but the fact that the patient is adding to it so many days in each year is why we are baffled.

We must not expect too much improvement in hearing during, or soon after, the nasal operative stage, for there may still remain very sensitive nasal and tubal membranes, dependent often on some disorder of the general system that requires careful attention before

we can get vapours well into the middle ear; but if we keep courage and follow the above plan we will find that 80 per cent. of those that have been given an unfavourable prognosis, because they failed to improve from a six or eight weeks' course of sprays and inflation, can be taken up and very satisfactory results obtained.

I would plead for a more sanguine, a more regular, and a more persistent treatment and observation of these patients. It is true that we may temporarily have to assume the attitude of a medical adviser, and perhaps exhaust some energy in teaching them personal hygiene: but I doubt that we as aurists discharge our full obligation if we look only at the surgical aspect of the case. They are in desperate straits, looking to us for help, and we must have a broad conception of our duties. Instead of sending them away in a state of resigned discouragement to become the prey of some quack, let us show them that otological progress at the end of the nineteenth century allows a more favourable prognosis in the dawn of the twentieth.

In an article by the author before the American Rhinological, Laryngological, and Otological Society, May, 1898, under the title "Modern Possibilities in Chronic Catarrhal Deafness," detailed reports of the time required and methods used in some obstinate cases, representing three distinct ages and periods in life, were made. Quoting from the same I would again say:

"The question does not seem to be so much whether we have an atrophic or hypertrophic condition, but did the deafness primarily occur as a catarrhal inflammation, or is there so much fixation of the ossicles as to preclude a possibility of relief except through operative work on the auditory structures?"

"If examination shows that the trouble be a catarrhal process, each year's added experience has given us more courage to make a favourable prognosis.

"Many practitioners are opposed to the treatment of deafness in particular, and catarrhal affection in general. This influence is felt in families, and, in those cases where prompt energetic measures are imperative, may become pernicious. Their opposition is honest, and comes from the unfavourable prognosis given by authorities for whom they and the author have great respect. We maintain that the conclusions of these authorities were based on experiences obtained under auspices much less favourable than the present: their every effort on the ear was hampered by recurring catarrhal inflammations, which to-day we can in a great measure control."

Mr. GALBRAITH CONNAL (Glasgow) contributed a case of *Sarcoma of the External Auditory Canal*. (Photographs of the patient and sections of the tumour were shown in the Congress Museum.)

Malignant tumours of the ear are rarely met with. Of the two forms of malignant disease, sarcoma of the ear is more uncommon than carcinoma. On looking over the statistics of the Glasgow Ear Hospital for the past twelve years, I find that in an aggregate of nearly 15,000 cases malignant disease is noted as occurring six times, once in 2,500 cases, four times epithelioma, and twice sarcoma. These figures nearly agree with those of Bürkner, which are often quoted. More recently Asch, in 1896, in reporting a case of sarcoma of the auricle, mentioned that he had found only ten cases of sarcoma of the ear described in literature.

Of the two cases of sarcoma which have occurred at the Glasgow Ear Hospital, one was reported by Dr. Barr in the *British Medical Journal* for October, 1897: the second is the case which I have the honour of submitting.

These two cases were in marked contrast in the way they developed. In Dr. Barr's case, where the sarcomatous mass originated in the middle ear, there was no external growth, and the symptoms latterly pointed to some intracranial mischief suggesting temporo-sphenoidal abscess. In the present case, where the sarcoma originated in the external auditory canal, the development of the tumour was outwards, and gave rise to a large swelling in front of and behind the ear.

The patient was a girl six years of age. About eight weeks before she came to the hospital, her mother noticed a small growth—said to be quite painless—in the external auditory canal. A portion of this growth was removed by the family medical attendant, but it quickly recurred, and afterwards pain was persistent and severe. Facial paralysis set in seven days later and persisted. There was no history of purulent discharge from the ear.

Inspection showed a grayish-looking mass occupying the external meatus. It was exceedingly painful to the touch, and with the probe it was found adherent along the posterior wall of the canal. There was slight matting of the tissues in front of the ear over the parotid, and the gland at the angle of the jaw was enlarged. As already mentioned, there was marked facial paralysis on the same side.

Under chloroform the whole mass was curetted from the wall of the canal. The tympanic membrane was found destroyed, and the bone on the inner wall of the tympanum denuded of periosteum.

This gave relief from pain, she slept well, and put on flesh. But in about a month's time the growth recurred, and rapidly involved the mastoid region and the tissues in front of the ear. The great involvement of these regions by the extension of the tumour outwards was seen from the photographs.

The patient died seven months after her first visit to the hospital. No post-mortem examination was allowed.

Sections of the tumour showed a spindle-celled sarcoma, with the sarcomatous growth extending along underneath the epidermis.

These malignant tumours of the ear, though rare, are very interesting. A point of practical importance lies in the diagnosis. As we know, sarcoma is apt to manifest itself in the earlier years of life, at a time when we often meet with polypi and granulations in the external auditory canal as the result of neglected purulent otitis media. Excessive pain should always excite suspicion of malignant mischief, and lead to a microscopical examination of the tissue. So far as I have examined the literature on the subject, excessive pain is the prominent symptom. If in addition to pain there is marked and rapid recurrence of the growth, with glandular involvement, we have a group of symptoms which should make one careful as to the diagnosis and prognosis.

In the present case the excessive pain, and—what was very marked—the grayish look of the tumour, which was unlike ordinary granulations, the intimate adherence of the tumour to the posterior wall of the external auditory canal, the matting of the tissues in front of the ear, the glandular involvement and the facial paralysis—these, apart altogether from the history of the case, presented a clinical picture which at once arrested attention, and led to a microscopical examination of the tissue being made, when the diagnosis of sarcoma was confirmed.

Dr. LANNOIS (Lyons) contributed a paper on *Epilepsy of Aural Origin*.

Dr. Lannois gave the history of a patient, aged twenty-six, of tuberculous inheritance, but without any pulmonary symptoms, who was attacked with double otorrhœa at the age of seven, and epilepsy at the age of thirteen. When he presented himself for treatment in April, 1897, he had, as a rule, an epileptic attack every week. One ear had cicatrized, and had been dry for some time. The other ear was still suppurating, the drum entirely destroyed, cicatrizing in part but with two ulcerations below and in front. Cure was obtained in a few weeks, and the hearing for the watch, which had been only on contact, improved to 25 centimetres.

At the same time the epileptic attacks disappeared, and in March, 1899, the patient returned of his own accord to say that he had remained cured ever since, and that his ears were quite dry. During the year 1898 he had only had two slight attacks of vertigo, the last being in the month of August.

Cases like this, where the action between the otic lesion and epilepsy appear well marked, are very rare. It is this fact which gives the interest to the case, and shows the importance of treating the ears when they are affected in epileptics.

BRITISH MEDICAL ASSOCIATION.

ANNUAL MEETING, HELD AT PORTSMOUTH, AUGUST 1 TO 4. SECTION
OF LARYNGOLOGY AND OTOTOLOGY.

(Continued from p. 560.)

Docent Dr. F. ROHRER (Zurich) read a paper on *The Anomalies of Development of the Auricle in Relation to the Mathematical and Physical Conditions of the Folding of the External Ear*.

This theme was chosen by the author in view of the work done by the great pioneer of phylogenesis, Charles Darwin, who has indicated the lines to follow for the elaboration of the teratology of the external ear.

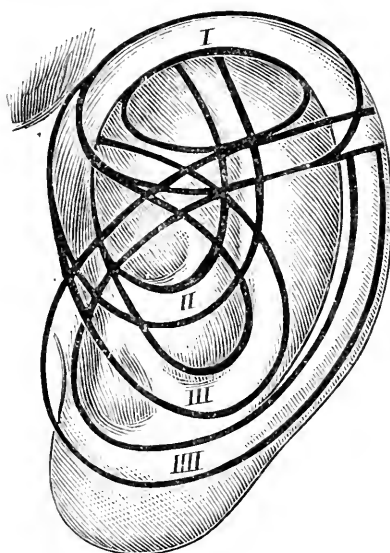
The embryology of the ear is given in the classical works of Kölliker and His, and also in the excellent publications of Moldenhauer, Katschenko, Gradenigo, Schwalbe.

The primary folds of the external ear show the six colliculi branchiales on the first and second branchial arch, beginning in the fourth week of fetal life, and forming tragus and antitragus, helix and anthelix, cauda heliis and lobulus.

In the following months is formed the real model of the auricle, with the cartilaginous protuberances and excavations. This model consists of a primary part formed from the six colliculi branchiales, and a secondary part formed from the ear-fold. To the primary belong the anterior and inferior part of the auricle; to the secondary, the posterior-superior part, with helix horizontalis and descendens, cauda heliis, truncus of the anthelix and crus superius antheliis.

The axis of the ear going from the incisura trago-helicina to the tuberculum Darwinii, the real ear-point, gives the coefficient

for the powers of secondary folding of the auricle by traction and compression, parallel or vertically, to the axis. Therefore, in the developed external ear, we find the normal model, and exceptionally a series of abnormalities and supernumerary cartilaginous protuberances. We see (1) from the last-mentioned protuberance a crus supernumerarium goes from the superior end of the truncus of the anthelix to the tuberculum Darwinii; (2) from the same origin arises the cyma; (3) the crus helices goes through the concha to the inferior end of the anthelix; (4) from the antitragus arises the crus helices ascendens through the concha.



Scheme of the four Cycloids, drawn by Dr. F. Rohrer.

The folding of the auricle can be excessive or abortive. Through an abortive state of folding we find :

(a) The margin of the helix thickened and without excavation (Macacus ear).

(b) The margin thin and largely developed, but only a small turn forwards (Pithecus ear).

(c) The margin thick and large and turned forward excessively, with a point on the horizontal superior part of the helix (Satyr ear).

In the latter case regularly the helix is formed like a band, and grown together with the anthelix ; also the scapha is aborted.

(d) The helix is atrophied, and the anthelix very prominently developed (Morel's ear).

The secondary folding of the cartilaginous walls of the auricle

is the consequence of a definite law, with mathematical and physical conditions. I have made a scheme, following exactly the prominent cartilaginous walls of the auricle, both for the normal external ear and also for anomalies of the cartilaginous walls, demonstrating the atavism and the teratology of the auricle. This scheme gives four cycloids, and shows all four anastomoses together.

First cycloid includes: Helix horizontalis, tuberculum Darwinii, crus tertium anthelicis, crus inferius anthelicis, helix ascendens.

Second cycloid includes: Crus superius anthelicis, superior trunk of the anthelix, crus anthelicis in concham, crus helcis ascendens.

Third cycloid includes: Crus inferius anthelicis, trunk of the anthelix, superior end of the antitragus, cartilaginous wall from the antitragus in the concha, crus helcis.

Fourth cycloid includes: Crus supernumerarium anthelicis from tuberculum Darwinii to the superior end of the trunk of the anthelix, crus quartum anthelicis in cymbam, tragus, antitragus, cauda helcis.

This scheme allows us to observe a certain number of exactly circumscribed principles for all the numerous anomalies of the auricle, and to give a mathematical and physical explanation of the law of the folding.

Mr. MACLEOD YEARSLEY (London) contributed a paper on *The Use of Suprarenal Extract in Rhinology*.

After a brief review of the work which has been hitherto done by various investigators, the author gave his own results from its use in diagnosis, as a hæmostatic, and in the treatment of nasal diseases.

The solution used was at first one of 5 per cent., later one of 5 grains to the drachm, and it was applied to the nasal chambers on cotton-wool tampons.

The effect upon comparatively normal noses was found to be marked, consisting chiefly of a considerable degree of ischæmia.

As an aid to diagnosis, this ischæmia was useful in revealing causes of obstruction otherwise hidden. As a hæmostatic the author considered the drug to be most satisfactory, and he claimed good results from its use in three cases of hay-fever.

Abstracts.

MOUTH, Etc.

Kronenberg, Dr. E. (Solingen).—*Angina und Acuter Gelenkrheumatismus.*
"Münchener Medicinische Wochenschrift," No. 27, 1899.

Report of a case where angina followed operation for the relief of nasal obstruction on one side, which consisted in the removal of papillomatous growths from the inferior turbinate with a cold snare. The angina ran a favourable course. A month later the same procedure was carried out on the other nostril. Six days later patient had a rigor, next day knees, ankles, elbows, and shoulders were swollen and painful, no sore throat, no discomfort in the nose. Swelling, pain, and fever disappeared with salicylate of soda. Shortly after there was a relapse with heart complications, and patient died. He refers to the occurrence of follicular tonsillitis after nasal operation, and discusses the etiology of rheumatism and its connection with tonsillitis, and the rôle played by organisms. *Guild.*

Onodi, A. (Buda-Pesth).—*Lipoma of the Tonsil.* "Archiv für Laryngologie und Rhinologie," Bd. ix., Heft 2.

The author was the first to report a case of lipoma of the tonsil. Since then (1895) Haug has published a case of lipo-myxo-fibroma, and Avellis one of fibro-lipoma. The author now reports another case of a lipomatous fibroma.

In his first case the patient was a child, whose mother had noticed for a year a small growth on the left tonsil, which was increasing in size. It measured 1 centimetre by $\frac{1}{2}$ centimetre, was pale yellow, and was attached by a pedicle to the tonsil. It was removed with a cold snare. The whole mass was found on microscopic examination to consist of fat.

The second patient was a girl aged twelve, to whose right tonsil a pale yellow polypoid growth was attached by a small pedicle. It was removed with the cold snare, and measured $1\frac{1}{2}$ centimetres by 1 centimetre. Microscopically the greater part consisted of sclerosed connective tissue. Groups of fat cells were scattered about the middle of the tumour. Around the fat cells a small-celled infiltration was seen, which gradually passed into the surrounding connective tissue.

A. B. Kelly.

Spiess, G. (Frankfort-on-Main).—*Sequestrum in the Alveolar Process after drilling into the Antrum.* "Archiv für Laryngologie und Rhinologie," Bd. ix., Heft 2.

In a patient with antral suppuration a passage was drilled into the cavity through the alveolar process by means of a borer 3 millimetres thick driven by an electric motor.

The operation went smoothly, but owing to the great thickness of the bone not very quickly. Syringing was afterwards carried out easily, but from the first there was great tenderness on introducing the cannula.

Four months after the operation the patient returned, bringing with him a piece of bone which had recently been expelled after having been loose for some time.

This was found to be a ring of bone 2 millimetres thick, which exactly encircled the borer.

It is difficult to determine exactly how this sequestrum was formed. Infection from the antral empyema was probably not the cause. The author thinks that it lies rather in burning, the borer becoming heated in consequence of the high speed at which it was running and the length of the operation.

The great sensitiveness, in spite of cocaine, etc., which the author has met with in a number of such cases was probably due to slighter degrees of burning, which did not lead to necrosis. In order to avoid this complication, a drill should be used which is slightly thinned behind the point.

A. B. Kelly.

N O S E.

Ostmann, Prof. (Marburg).—*The Removal of the Hypertrophied Posterior Ends of Inferior Turbinates.* "Archiv für Laryngologie und Rhinologie," Bd. ix., Heft 1.

There are objections to the cold and hot snare in this operation. With the former there is occasionally profuse bleeding and difficulty in encircling the hypertrophied mass; with the latter there is also the difficulty in catching the growth and the danger of infecting the middle ear.

For three years the author has employed a combination of cautery and cold snare, which he recommends as more easily applicable, and fraught with less danger to the ear.

As a rule, when the posterior end demands removal, the rest of the inferior turbinate has to be cauterized. The author's method meets both requirements, and one sitting suffices.

After applying cocaine, a curved furrow is made with the cautery-point from behind forwards, immediately above the lower edge of the bony turbinate, and carried through the mucous membrane to the bone. A second or third parallel furrow can be made as required above or below the first.

By the first furrow the hypertrophy is separated from its attachment where the most important vessels enter it. The final separation is effected by the cold snare, and in many cases quite bloodlessly.

A. B. Kelly.

Piff, O.—*Hyperplasia and Tuberculosis of the Pharyngeal Tonsil.* (Preliminary report.) "Prag. Med. Woch.," No. 19, 1899.

The author examined 100 cases of hypertrophy of the pharyngeal tonsil. He expresses himself against the opinion of many, that tuberculosis is the cause of the hypertrophy, but believes in the lymphatic constitution and family predisposition to this hyperplasia. In three of the hundred cases tuberculous nodules with giant cells, etc., were found; in one of these cases there were enlarged glands in the neck, otherwise the patients presented no signs of tuberculosis either before or after operation.

Diagnosis of tuberculous affection of the pharyngeal tonsil can only be made after microscopic examination: swelling of the glands of the neck was present in only 27 per cent. of all previously published cases. The mode of infection is most frequently by the inspired air; occasionally, in cases of extreme hypertrophy, by tuberculous sputum.

From his own and all previously published cases, the author finds that only 4 per cent. of adenoids are tuberculous, and therefore regards the pharyngeal tonsil as very little liable to tuberculous affection. Nevertheless, even this small liability to tuberculous invasion justifies operative extirpation of adenoids in all cases where there is even the very slightest suspicion or fear of the presence of tuberculosis. The extirpation must be absolutely thorough. *Arthur J. Hutchison.*

Ziem (Dantzig).—*Trachoma of the Conjunctiva, and its Relation to Diseases of the Nose.* "Annals of Otol., Rhinol. and Laryngol.," February, 1899.

A paper on the ætiology and treatment of trachoma of the conjunctiva, in which much importance is attributed to nasal catarrh, ozæna and affections of the accessory nasal sinuses, especially the frontal sinus and antrum, as factors in the ætiology of the disease. The author is convinced by his own experience and that of others (Nieden, Vocher, Sattler, Kuhnt, and others) that treatment of the nose is an essential part of the treatment of trachoma, and that recurrence after so-called radical operations—excision of hypertrophies, tarsus, conjunctiva, etc.—are frequently due to neglect of the nasal condition. Irrigation of the conjunctival sac, of the nose and of the naso-pharynx is a part of his routine treatment. *Arthur J. Hutchison.*

Treatment of Nasal Stenosis due to Deflective Septa, with or without Thickening of the Convex Side.

Six papers read before the section of Laryngology, New York Academy, are given in the June number of the "Laryngoscope."

Bosworth.—The author connects his method of operation with the saw with the recognition of the importance of the nose as a respiratory organ in 1885. He claims for the method he advocates the following advantages: (1) The operation can be performed at an office sitting, and does not involve confinement to house and bed, and practically does not interfere with the daily occupation. Hemorrhages, too, are not usually severe. The paper contains references to other older methods of operation.

Asch.—The vital point in operating is the destruction of the resiliency of the cartilage in such a way that, after being forced into and kept in position, without any loss of tissue, the result would be a straightened septum.

The operation is done under complete anæsthesia. The patient's head is drawn back over the edge of the table. The special scissors are introduced with the blunt blade over the line of the greatest convexity and the sharp blade in the other nostril. The cartilage is cut through by closure of the scissors, which are then again introduced with the blades pointing vertically, crossing the centre of the previous incision. With the finger the resulting four segments are pressed into the concave side, effectually breaking them at their base.

The septum is further straightened with compression forceps. Iced Dobell's solution is now sprayed into the nostrils to check the bleeding, and the splints, which consist of curved hollow tubes made of vulcanite, with perforations to prevent them slipping, and flattened on the sides, are introduced. The operation in experienced hands should not occupy five minutes. The after-treatment is described, the chief points being: The patient should be in bed at least four days, with iced cloths applied externally and cold antiseptics sprayed into

the nose; the smaller tube should be removed from the non-stenosed side after twenty-four hours; the other tube, removed and cleansed after the first forty-eight hours, should be used for four weeks.

The merits of the operation are simplicity, ease, rapidity, and safety, no death having occurred in 350 cases. If bony deviations exist, they should be treated with chisel or electro-trephine after the permanent removal of the tubes.

Roe.—Early attempts to straighten the septum failed because of the failure to overcome the elasticity of the cartilage. Later methods are enumerated, but the author believes that in order to thoroughly overcome the tendency to recurrence, the anterior part of the osseous septum, which is implicated in all but a few rare cases of deflection of the cartilage, should be broken, without laceration of the tissues. For this purpose he recommends his fenestrated comminuting forceps. The osseo-cartilaginous portion of the septum is thoroughly broken up by slightly rotating the blades. The elasticity of the anterior portion of the septum should be overcome by free incisions or by other methods enumerated. The author uses a vertical and horizontal incision, made obliquely with a knife like a Greek cross, through the greatest convexity. A further incision along the lower border of the deflection (and in some cases in the superior portion also) is usually necessary. These incisions should be submucous, or, at any rate, should not penetrate the membrane on the opposite side. The septum is placed in position by flat-bladed forceps.

The author prefers cotton dressings wound round a flat piece of metal, saturated with bichloride solution and dusted with iodoform, to hard rubber tubes, pins, etc. The dressing should be renewed in three or four days, and removed altogether two days later. The operation is faulty if further support is required.

Spurs, ridges, etc., should be removed before or after the above treatment.

Watson.—A successful operation must remove obstruction to respiration and to drainage, and must relieve pressure. The triangular cartilage has a rubber-like resiliency; the bony septum is extremely brittle and easily moulded. Any operation, to be successful, must eliminate redundant tissue and must provide a fixed attachment or support for the cartilage.

There are two general angles of deflection, one or both are present in any case—one horizontal, running antero-posteriorly, usually low down; the other perpendicular, near the front of the septum. Bony or cartilaginous thickenings, when present, are along these angles. Under cocaine anæsthesia a bevelled incision is made with a tenotome from behind forward, just below the horizontal angle. If a perpendicular angle exists, another bevelled incision is made from above downward in front of it. If the angle is thickened, a wedge-shaped portion is removed.

The whole upper portion of the septum is then pushed over into the opposite nostril. Adams' forceps may be used for the bony septum if necessary. A small pad of gauze may be inserted in the previously stenosed nostril.

If, owing to the incisions, the tip of the septum is without support, a pin may be used in the manner the author describes. The redundant and thickened portion can be removed at the time or subsequently, with the saw. The incisions should, if possible, not penetrate the mucous membrane of the opposite side.

The points of this operation are :

1. All the cartilaginous septum down to the angle is utilized to form the new septum.
2. Elimination of the redundancy is provided for.
3. A firm point of support, the base of the septum, is provided to counteract the resiliency of the cartilage.
4. Deflection of the bony septum is corrected.
5. It does not transfer thickened angles and redundant tissue to the other naris.

Gleason.—Redundancy and resiliency (especially the latter) are the factors that interfere with the success of operations. The author's operation utilises septal redundancy as a splint, resisting the spring action from the neck of the U-shaped flap, and is best adapted for vertical deviations on account of the narrowness of the flap and the consequently small tension. No support is required in these cases after operation.

In horizontal deflections the base is broader, and unless the redundancy is great the resiliency may force the flap back. In these cases (not 20 per cent. of those requiring operation) a tube is required as a support after operation.

In cases where it is doubtful if there is sufficient redundancy to resist the resiliency from the neck of the flap, the vertical crura of the U-shaped incision should be extended upward to as high a point as possible upon the septum. An effort should also be made to fracture the neck of the flap, or it should be thoroughly bent.

The operation is done under cocaine anæsthesia, with the aid of a self-retaining speculum. A thin saw is used below the deviation horizontally until it has penetrated deeply. It is then used in a nearly vertical direction, care being always taken to hold the saw parallel to the septum, so as to cut *round*, and not *through*, the deviation. A bistoury is used in cases requiring lengthening of the crura of the U-shaped incision. The flap is thrust through the hole in the septum with the finger. Excessive redundancy may be removed at the time of operation or subsequently.

It is well to slip a tube in, and to decide upon its further use the next day.

The advantages of the operation are: Its simplicity; the short time required (in uncomplicated cases two minutes); the minimum amount of suffering at the time and during after-treatment, if no tube is used. It yields almost uniformly permanently successful results.

Douglass.—Unless the deflection causes symptoms it should not be treated. Of all nasal cases applying for treatment at the Manhattan Eye and Ear Hospital, 11.3 per cent. show deflections which cause symptoms. In a recently fractured or bent septum replacement and support are all that is required. The author enumerates and gives drawings illustrating the various forms of deflected septum.

Before operating to correct deflection, exostoses and enchondroses and, from the unobstructed side, any condition of the turbinated tissues which would form an obstruction after replacement of the septum, should be removed. The patient is under ether. A careful examination of ridges and convexities should be made with the finger, and then the septum is to be perforated with a special spear-knife at the point of greatest convexity, and cut along the lines of deflection

with a blunt-pointed bistoury with a slight sawing movement. Each deflection should be cut to its remotest point. If the bony ridge of the superior maxilla is displaced, an attempt should be made with the forceps to break it from its improper attachment. If, however, the cartilage has slipped from its articulation with the maxilla, treat it as above described. Next destroy the elastic bands which may exist in the submucosa as a result of the inflammatory action accompanying the deflection, by forcibly twisting the septum with a rolling motion. Next bend the septum away from the side which it has obstructed. The edges are made to overlap on the unobstructed side by the finger introduced into the obstructed side. Prominent deflections of the bony septum should be broken by the forceps or removed by the chisel. Splints are now introduced into both nostrils—the smaller one into the previously unobstructed nostril, and they are not removed for forty-eight hours. If on examination the septum is found deflected, it should be straightened by a nasal periosteum elevator. The smaller splint is removed permanently after four days; the other, removed frequently for cleansing purposes, should be worn for two weeks, day and night, and for one week longer at night only. The treatment is antiseptic throughout. The author attaches much importance to the after-treatment with splints, which ensures success if they fit properly and are tolerated by the patient.

The paper is illustrated with drawings and photographs. He claims the following advantages for this method: The *entire septum* is straightened; slight external deformities are corrected by the breaking of the superior maxillary ridge; it is adaptable to all forms of deformities and deflections; no perforations result; no granulation tissue is left to be curetted; it produces better and more uniform results than other methods.

R. M. Fenn.

LARYNX.

Harmer, L.—*Stenosis of Trachea due to Aneurysm of Aorta; Tracheotomy; Death One Year later.* "Wien. Klin. Wochenschr.," No. 23, 1899.

G. B., male, forty-five years old, had suffered for one and a half years from increasing shortness of breath and shooting pains in chest and shoulder. On admission to hospital there were evident signs of aneurysm of the aorta, and of tracheal stenosis, giving rise to considerable dyspnoea. Sudden increase of the stenosis necessitated tracheotomy, but as the introduction of an ordinary tracheal cannula gave no relief, a catheter was passed through the wound down the trachea. At first, owing to copious secretion, this had to be frequently changed; later a soft tube specially constructed proved satisfactory. Several attempts made to remove the tube altogether proved quite unavailing. After the tube had been worn constantly for nine months, the mucus began to be tinged with blood. Several slight hæmorrhages occurred. Almost exactly a year after the operation patient died during a fit of violent coughing with symptoms of suffocation; this was accompanied by slight hæmorrhage from the tube.

Post-Mortem.—Immediately above the aortic valves was an aneurysm 10 cm. long, 7 cm. broad, with thick, stiff walls. The trachea was

bent in a sharp S curve over this, its lumen was reduced to that of a goose-quill, and its walls were as thin as a sheet of paper. Three small perforations formed communications between trachea and aneurysm. Death was due to inhalation of blood through these openings into the lungs.

The chief interest of this case is the unusually long time the patient lived, with a tracheal stenosis so deeply situated that no ordinary tracheal cannula could reach it. All other reported cases have died very soon after operation.

Arthur J. Hutchison.

Harmer, L.—*Carcinoma of Thyroid Gland with Metastases in Nasal Fossæ.* "Wien. Klin. Wochenschr.," No. 23, 1899.

A. S., female, aged forty-four. In 1897, after confinement, noticed a small swelling of the right side of the neck, began to suffer from headache, dry cough and occasional stoppage of nose, and later from ptosis of left eyelid. All these symptoms increased very slowly until autumn of 1898, then rapidly grew much worse; sight in left eye was rapidly lost, ptosis became complete in left and commenced in right, whilst the goitre grew very quickly. On admission to hospital patient was excitable, had tremor of limbs on movement, increased tendon reflexes, rapid pulse (90 to 120), sometimes palpitations. Indefinite systolic bruit was audible over all the valves; over sternum percussion note dull; slight protrusion of eyeballs, absence of any pupil reaction; could barely count fingers with left, but could read with right eye; optic atrophy in both. On right side of neck there was a tumour of the size of a man's fist, extending slightly across the middle line, and hanging down over the clavicle, moving slightly up and down on swallowing, and covered with normal, freely movable skin. The tumour was firm, in parts quite hard, with distinct limits, and only slightly movable on underlying tissues. In both nasal fossæ were new growths, arising from ethmoid, blocking the passages pretty completely. Patient remained under observation two and a half months, being treated with arsenic and thyroïdin. During this time a few hard glands appeared in the neck, a network of veins appeared over sternum, and the dulness of the percussion note there increased. At no time was there fever, or any difficulty of swallowing or breathing, or any involvement of fifth nerve.

Histological Examination of the Growths from Nose.—Growth from left fossa: Under the stratified cubical epithelium is a layer of firm connective tissue, with few bloodvessels; from this narrow bands, at considerable distances from one another, dip down into the interior of the tumour. These form the limits of spaces of varying size, filled with epithelial cells. The cells appear to have neither vessels nor connective tissue amongst them, and in certain sections surround generally small, seldom large, spaces containing colloid material. The tumour from right fossa is practically identical. They are therefore medullary carcinomata, probably metastases from the thyroid tumour.

The author discusses at some length, and satisfactorily establishes, the diagnosis of malignancy in the thyroid tumour, then discusses the route by which the metastases reached the nose. Though not pretending to any certainty on this latter point, he is inclined to the theory that the primary seat of the metastasis was the body of the sphenoid; thence there was penetration into the sphenoidal sinus, and thence extension into the ethmoid cells.

The most usual positions for metastases from thyroid cancers are the lungs and bones. The author has not been able to find any record

of metastasis in the nasal fossæ, therefore regards this as a unique case.

Arthur J. Hutchison.

Purrucker.—*Pathology of the Thymus Gland; Case of Extirpation.* "Münchener Medicinische Wochenschrift," No. 28, 1899.

Child, aged two and a quarter years, normally developed, exhibited a fortnight after birth noisy respiration, which increased along with difficulty in breathing, which was so great that the parents feared suffocation. At rest the respiration was slow and noisy, with indrawing of the chest equally on both sides, but no cyanosis.

On exertion the noise, difficulty in breathing, and indrawing of the chest were increased, with cyanosis. The noise was louder in recumbent than sitting position. The pharynx was free. The epiglottis was folded on itself. Laryngoscopic examination and palpation were not possible. There were no signs of rickets or glandular enlargement. The appearances coincided with those of infantile laryngeal stridor, which must be differentiated from the laryngospasmus of rickets. The only special characteristic in this case was hoarseness, which has not been described before in similar cases. Operation showed an enlarged thymus lying deeply behind the sternum. The noise disappeared completely on pulling the thymus in front of the sternum, and recurred when it was allowed to slip back; further, by strong traction on the thymus it was again produced. The gland was removed; its length was 8 centimetres, breadth 4 centimetres, thickness $1\frac{1}{2}$ centimetres. Dyspnoea and noise did not recur. Eight months after the operation the child was thriving well. The hoarseness was uninfluenced by the operation. Laryngoscopic examination has not yet been possible.

Guild.

Spieß, G. (Frankfort-on-Main).—*A New Laryngo-stroboscope.* "Archiv für Laryngologie und Rhinologie," Bd. vii., Heft 1.

This instrument differs from Oertel's in its small size. It resembles a Meissen's lamp attached to a steel head-piece.

In a fixed drum, which has two pairs of holes opposite one another, is a second drum of somewhat smaller diameter. The latter is connected with an electro-motor by a wire passing over the head. The wall of this inner drum is also perforated, the holes being at the same height as those of the outer drum, and so arranged that three pairs of inner perforations are opposite the larger, upper and outer opening, while six pairs are opposite the smaller, lower and outer opening.

Two small electric lamps, one on each side of the openings, are fixed so that their light will fall on the laryngeal mirror when in position.

The outer drum also presents an opening opposite the inner larger perforations, to which a short indiarubber tube is attached. The person examining takes the end of this tube in his mouth in order to blow the siren and estimate the number of revolutions from the tone.

The use of the apparatus is simple. The connections having been made, the instrument is fixed on the forehead so that the eye can see the laryngeal mirror through the openings. If the motor is now started and the illumination is good, the vibrations of the vocal cords will be very distinctly seen.

A. B. Kelly.

Uchermann, V. (Christiania).—*A Case of Functional Expiratory Glottic Spasm (Expiratory and Rhythmic Spastic Dyspnoea).* "Archiv. für Laryngologie und Rhinologie," Bd. viii., Heft 1.

The author was called to see a woman aged forty-two, suffering from severe difficulty in breathing, with stridor.

On the previous day she had been long exposed to a strong wind on board a steamer, and afterwards had experienced pains in the neck and on swallowing. There was also difficulty in breathing, affecting both inspiration and expiration. The patient was of a hysterical disposition.

When first seen by the author the breathing had somewhat improved; inspiration was easy and unimpeded; expiration was prolonged, and ended with stridor. Whispering voice. No fever. Cough had ceased; no expectoration.

On examination the pharynx was found to be hyperæsthetic. The mucous membrane over the cartilages of Santorini and posterior wall of the larynx was somewhat injected. The vocal cords appeared healthy, and on inspiration passed as far outwards as normally with ordinary rapidity. On expiration, on the other hand, they were strongly adducted, and towards the close of expiration almost came into contact. The duration of expiration was about double the normal. On intonation, the action of the cords was normal, excepting that they did not meet posteriorly owing to paresis of the transversus; this was accomplished without any trace of spasm. She was quite aphonic (but not on coughing), because speaking caused pain. After painting the larynx with a 20 per cent. solution of cocaine the stridor ceased, but not entirely the adduction on expiration nor the aphonia. Salicylate of soda and bromide of soda were prescribed, and in a few days the phenomena above described passed off. She had a couple of similar attacks subsequently. The laryngoscope on both occasions showed expiratory glottic spasm.

The author regards the condition in the above case as closely allied to nervous cough. This is indicated by the clinical history—from the beginning there was cough without expectoration, and probably it was of a paroxysmal character—and also by the fact that the expiratory spasm, which alone remained on the following day, ceased on speaking, just as in nervous cough. The new clinical picture, which appears to have been a direct continuation of the first, has its counterpart in the continuous rhythmic nervous cough. It might be regarded as this condition without cough. Appearances were complicated by the presence of the accompanying paresis of the transversus muscle and by rheumatic pains.

The disease must be placed in a class with nervous cough, and, as in the case of the latter, an abnormally heightened irritability of the respiratory section of the central nervous system is assumed, especially of the expiratory and cough centre. That the spasm, and more probably also the cough, were not purely reflex is proved by their having persisted—although less intense—after painting the mucous membrane with cocaine. After the original, cough-exciting irritants in the larynx had become less effective by the paresis, or had changed in character (they were painful, and therefore at the same time inhibitory, for the patient voluntarily or half involuntarily sought to avoid the painful attacks of coughing), the cough ceased, while the heightened irritability in the cough and expiratory centre could be recognised in a purely automatic, rhythmical, but prolonged movement of the abductors during expiration. The inspiratory impulse to the abductors was still capable of overcoming the increased irritability in the adductor centres, especially as the peripheral adductions apparatus was partly paralyzed. Only when the impulse was on the decrease, and the ordinary expiratory impulse preponderant, did the

irritability find its expression in increased adduction. It was, in other words, the heightened "reflex tonus." If one does not assume that the expiration continually causes an increased contraction of the adductors, it will be more difficult to explain why the automatic spasm is not met with as usual in the inspiratory stage, when, according to this view, the only automatic impulse occurs.

A. B. Kelly.

E A R.

Culbertson, L. R.—*Delusional Insanity resulting from Auditory Concussion.* "Annals of Otol., Rhinol. and Laryngol.," February, 1899.

Patient, male, aged thirty-eight, had been "somewhat of an epileptic for many years." No ear trouble up till ten years ago, when a gun was fired close to left ear. Since then he has had loud ringing noise in that ear, and occasionally imagines he hears doors banging or guns being fired; the latter he thinks are real external noises, and he deplors his own condition "about the hunting season." The right ear was practically normal, but in the left the membrane was semi-opaque and congested about the manubrium; watch was heard on contact, low conversation at 4 feet. Eye-strain as a possible cause of the tinnitus and epilepsy could be eliminated.

The conclusion is that "the concussion of the left auditory nerve from the report of the gun has caused deafness with partial degeneration of the left auditory nerve, and consequent hallucinations of hearing. Epilepsy aggravates, and may be one cause of his delusion of hearing."

Arthur J. Hutchison.

Hartmann, Dr. Arthur (Berlin).—*The Influence of Otitis Media in Infants on the Alimentary System.* "Zeitschrift für Ohrenheilkunde," xxxiv. 1.

1. Acute feverish otitis causes loss of weight or cessation of growth.
2. Otitis with severe septic symptoms may cause diarrhœa.
3. Acute feverish otitis in the course of intestinal disease may increase the general symptoms, and by depressing the power of resistance increase the intestinal affection, cause relapses, or retard recovery.
4. Further investigation is required to demonstrate if lingering otitis may not produce chronic atrophy.

He discusses the diagnosis and treatment of otitis in infants.

Guild.

McCaw, J. F.—*Bilateral Aural Lesion following Traumatism.* "Annals of Otol., Rhinol. and Laryngol.," February, 1899.

The patient, female, aged twenty-seven, had been perfectly well as regards the ears till nine months before consulting writer. At that time she fell, striking the back of the head; did not lose consciousness, but was seized with headache, epistaxis, vertigo, nausea, vomiting, and severe tinnitus. Gradually all the symptoms passed off except vertigo and tinnitus, which diminished. After about four days there was sudden loss of hearing, worse at nights, slightly better in the mornings, finally settling into a well-marked deafness with constant tinnitus. The vertigo gradually passed off. Hearing in the right ear improved gradually to a very slight degree. Examination of canals,

membranes and middle ears revealed nothing abnormal. Deafness marked, watch not heard, bone conduction bad, high tones not heard by air conduction.

The author can only find one similar case reported, viz., that of Kaufman (*Vienna Med. Journ.*, 1897), and he thinks that the explanation of the bilateral labyrinthine affection suggested there is applicable to his own case. "Kaufman seeks to account for the labyrinthine affection on both sides by the sudden pressure brought to bear through the trauma, and the spreading of this to the perilymphatic tracts, thence by means of small consecutive hæmorrhages to the parietes of these tracts. In consequence of the hæmorrhages there were disturbances of nutrition and deafness."

Arthur J. Hutchison.

REVIEW.

De Schweinitz, G. E. and Randall, B. Alex.—*An American Text-book of Diseases of the Eye, Ear, Nose, and Throat.* Edited by G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; and B. ALEX. RANDALL, M.A., M.D., Ph.D., Clinical Professor of Diseases of the Ear in the Philadelphia Polyclinic, Ophthalmic and Aural Surgeon to the Methodist and Children's Hospitals, Philadelphia. Illustrated with 766 engravings, 59 coloured. (London, 1899: Rebman Publishing Company; and Philadelphia, 1899: W. B. Saunders. Vol. II., pp. 634.)

THE second half of this work, which, we understand, can be purchased separately, is the one with which we are alone concerned, and it contains between pages 617 and 1213, the sections on diseases of the ear (pp. 617 to 805), and on the nose and throat (pp. 807 to 1213). The editing of this half has been carried out by Dr. Randall, and the various sections are by various authors who have been very happily chosen for the share allotted.

The anatomy is dealt with by Dr. Randall, the physiology by Drs. Allport and Beard—both in a practical and lucid manner. In the physiology reference might well have been made to the observation that "beats" are entirely subjective phenomena, which, until it is disproved, has to a great extent revolutionized the physiology of hearing. Dr. Holmes, of Cincinnati, contributes an excellent article on etiology and pathology, cholesteatoma being very shortly but very clearly described. The examination of patients by Dr. Allport is much on the lines of the reviewer's articles on the subject ("Medical Annual," 1894, and "Laryngoscope," vols. i., ii., and iii.), from which he approvingly quotes. Dr. Allport has added many excellent instructions. To the general sections Dr. Clarence Blake adds one on the therapeutics of ear affections, of value on account of the authority of the writer. These general sections overlap, as is inevitable—the excellent special articles by Dr. Theobald on the external ear, Dr. Würdemann on the injuries and diseases of the drumhead, Dr. Miller on the acute affections of the tympanum and Eustachian tube.

Dr. Derch's articles on chronic catarrh of the middle ear, in which he protests against the use of the word "catarrh," is, of course, pro-

gressive in tone. He does not seem to find the preponderance in the female sex that we now recognise; and he does not make the cut-and-dry distinction between the hypertrophic and the sclerotic forms to which we attach so much importance. It is quite true that in a very large number of cases the cut-and-dry distinction cannot be made. He dwells on the frequency with which even extreme vertigo results from this disease and on the readiness with which such vertigo yields to treatment.

Dr. Albert Buck writes on chronic suppuration of the middle ear, and the weight of his authority in the advocacy of a judiciously conservative mode of treatment will not be lost on his readers. Dr. Knapp deals with the complications of tympanic inflammation, and his chapter is most valuable from the pathological and symptomatical point of view, the treatment being dealt with in Dr. Orne Green's valuable chapter on operations. In this said chapter both minor and major operations are excellently described, though one would have wished a little more than two pages on the discussion of the details of the operative treatment of sinus thrombosis. The diseases of the sound-perceiving apparatus are very thoroughly discussed by Dr. Henry Alderton, who leaves very little unsaid that can be said with regard to the pathology, as well as the diagnosis, of these obscure affections. The statement that in acoustic hysteria the most constant functional test is lowering of the upper tone limit is, we consider, open to question, and in point of fact we believe that the absence of lowering of the upper tone limit in case of nerve deafness is a very strong point in favour of the condition being an hysterical one. On p. 778 the excellent table of tuning-fork reactions in an average case of recurrent purulent median otitis is marred by a transposition of the letters *b-c* and *a-c*, which should be reversed. Dr. Alderton thinks gelsemium of great value in acoustic neurasthenia.

Good articles are given on the anatomy of the pharynx and larynx, the clinical anatomy of the nose, and the physiology of the upper air-passages, by Drs. Bloss, Harrison Allen, and Freeman respectively, the last containing important references to recent literature. Dr. Bryan deals with the general pathology and symptomatology, and Dr. Farlow with the methods of examination and diagnosis in a very complete way. The description of the method of using Mount-Bleyer's epiglottis-lifter (p. 872) is different from our own understanding of it, namely, that it should be placed in front, not, as Farlow says, behind. Dr. Leland's chapter on therapeutics and prognosis should be read by every specialist on account of the judicious consideration given to the general as well as the local factors. Dr. Casselberry's paper on acute affections of the nose is practical and studded with useful "prescriptions." Among the chronic affections Dr. Asch includes deviation of the nasal septum, and gives a clear description of his widely-approved operation.

Dr. Newcomb discusses diseases of the tonsils, palate, and pharynx with considerable eclecticism. This is especially true with regard to the enlargements of the tonsils, for which our writers and operators seem to think, as a rule, of no other measures than the use of Mackenzie's admirable guillotine. Atrophic rhinitis receives full justice from Dr. Porcher, whose views seem rather more hopeful than formerly. Dr. Myles is identified with the accessory sinuses of the nose, and in his writings we must recognise a progressiveness which many "on this side" might well emulate. We are too much accustomed to depend on the alveolar opening or the "canine-fossa operation" to the exclusion

of every other method. Dr. Myles is more discriminating. He makes no mention of Lichtwitz's exploratory puncture and irrigation through the inferior meatus in his main text, though he reports its use in the accounts of one of his cases.

The acute inflammatory affections of the larynx and trachea are entrusted to Dr. Hopkins, the chronic ones to Dr. Sajous. The latter dwells on the fourfold causation—inhilation of irritants, nasal obstruction, derangement of the alimentary tract, and excessive or wrong use of the voice. He insists on greater attention to the condition of the subglottic region. Diphtheria, though treated among the acute diseases of the larynx, has another special chapter devoted to it by Dr. McCollom. He attributes little influence to insanitary conditions. He is a confident supporter of the antitoxin treatment, and rather deprecates caustic applications to the throat. After intubation he recommends nasal feeding. No reference in this very full chapter is made to the paralysis of the sphincters of the larynx, which is not infrequently a cause of serious danger. Dr. Shurly deals with tuberculosis of the air-passages in the thorough way his reputation would lead us to expect. He does not speak very highly of curetting, but advocates frequent scarification. Among internal remedies he gives the first place to iodine in milk or bouillon. His article is illustrated by means of the very familiar drawings in Grünwald's *Hand Atlas*. He goes very fully into the general pathology and varieties of lupus, and advances the possibility that the bacillus of lupus, instead of being identical with that of tubercle, may be more closely allied to that of Fisch, which is found in rhinoscleroma. Glasgow gives a short account of syphilis, and Jonathan Wright a compendious one of neoplasms of the upper air-passages. The references in the latter chapter are most valuable. The writer deprecates endo-laryngeal operations for even early intrinsic carcinoma of the larynx, advocating extra-laryngeal procedure. Dr. John Roe writes the chapters on injuries to the upper air-passages, including foreign bodies; and in regard to those in the trachea, he insists less strongly than many other authors on the necessity for tracheotomy (p. 1132). Dr. Jonathan Wright gives a most interesting account of nasal neuroses, including "nasal reflexes." He does not lay down the classical criteria of nasal reflexes, viz., association with undoubted nasal symptoms (sneezing, etc.), excitability of the reflex on irritation of the nose, relief when this is cocaineized, etc.

Dr. Makuen writes judiciously on voice-training, and urges for more eclecticism and less faddism on the part of voice-trainers.

The volume concludes with a chapter by Dr. Roe on operations on the air-passages, a subject with which he is peculiarly fitted to deal.

It will be seen that the book is altogether the work of very representative American specialists, and it has most of the advantages with very few of the drawbacks attaching to a multiplicity of co-authors.

Dundas Grant.

NOTICE OF PUBLICATION.

WE are informed that the New Year will see a text-book on diseases of the nose and throat, published in America, and written by a Canadian. The writer is well known to all our readers—Price-Brown, of Toronto. We congratulate him and his mother-colony on the forthcoming event.

CORRECTION.

PROFESSOR LUCÆ writes to correct an error in the numbers given by him in his paper on the "Indications for the Opening of the Mastoid" (JOURNAL OF LARYNGOLOGY, October, 1899, p. 537, line 1), which, instead of "1,763," should read "1,736." Further, on p. 538, line 6, the words, "or at least of the cavum tympani," would better convey his meaning if they read "or of the whole middle ear (radical operation)." We have much pleasure in making these corrections in accordance with his wish. D. G.

THE
JOURNAL OF LARYNGOLOGY,
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THE CONTAGIOUSNESS OF ACUTE SUPPURATIVE INFLAMMATIONS OF THE MIDDLE EAR.*

BY DR. MARCEL LERMOYEZ,

Physician to the Hospital of St. Antoine, Paris.

AMONG the causes of acute suppuration of the middle ear, contagion has not yet been noted—so far, at least, as I know. For all that, a certain number of observations that I have made during the last few years have led me to a conviction which was at first doubtful, but now quite decided—that acute median otitis is contagious. It is certainly not an obvious and unavoidable contagion, such as that of the eruptive fevers; in such a case it would have been long recognised. It is, on the contrary, a possible transmission, often quite avoidable, which, from its infrequency and its insidiousness, easily escapes observation.

It is the same with regard to otitis, it seems to me, as with pneumonia. In the one as in the other, exposure to cold has had the monopoly with regard to the etiology; still, in so far as pneumonia is concerned, this old type of disease *a frigore*, a patient and close observation has come to demonstrate its contagiousness. I should like to do the same for acute median otitis. Not that I wish to pretend that all acute suppurations of the middle ear are contagious—far from it; but I firmly believe that inflammation of the middle ear often has no other cause.

* Communication read before the International Congress of Otology, in London, August, 1899.

The preliminary communication which I now offer has no other object than to draw attention to a point of otological nosology, the subsequent study of which will tend to show whether it is well founded or not.

Seven cases have appeared to me to point strongly to this conclusion :*

1. The first case, a very simple one, was that of a woman who waited upon her husband while he was suffering from a *slight catarrhal median otitis*, and who, without any local previous disposition and without being exposed to cold, as she did not leave the room, was attacked with a similar affection. These two cases were similar, and went through the same course.

2. A second interesting observation is that of two sisters who lived together. They were both attacked, with different degrees of intensity it is true, by *herpetic angina*, true herpes of the pharynx. In both there resulted *acute purulent otitis*, having the same character in each, with torpidity almost without pain, but with enormous distension of the tympanum, which did not undergo spontaneous perforation and yet gave rise to an abundant suppuration.

3. Another observation was that of a coincidence which was, at the least, a curious one. Two sisters living together were attacked with measles. They had intense purulent otitis, and both, in the course of their disease, had identical attacks of adenoiditis. Measles, otitis and adenoiditis followed each other in the same chronological order; why allow of contagion in the first disease and not in the others?

4. Two children, sisters, were attacked by a mild influenza, and in both there was an acute otitis following the same course in each, slight and short, of the congestive type, with tympanic ecchymoses.

5. Another case of the same kind, but more clearly cut. In a brother and sister, without any rubeolous or influenzal infection to prepare the way, there broke out an acute otitis of the hæmorrhagic form, commencing with an effusion of blood into the tympanic cavity and a tympanic bulla containing blood. This was followed by secondary suppuration, and settled down without fever or pain. It is true that both these children irrigated their noses by means of a Weber's siphon douche, but this imprudence could hardly, in my opinion, be held responsible, because the otitides had none of

* The details of these will be found in the Transactions of the London Congress.

the characters of the ordinary suppuration of the tympanum which follows nasal irrigation.

6. This is a curious observation. In the course of a slight influenza, an old lady became suddenly affected with double hæmorrhagic median otitis of the apoplectiform type, with involvement of the external ear. In the next place, the chambermaid who attended her had, two days afterwards, first a slight influenza, then a sudden hæmorrhagic otitis similar in every respect to that of her mistress.

7. An observation similar to the preceding ones. A chambermaid, without previous influenza or cold, was suddenly attacked with acute hæmorrhagic otitis, with hæmorrhagic bullæ on the tympanic membrane and the walls of the meatus. Four days later her young employer, on whom she attended, was also suddenly seized with a similar illness of the same type and following the same course.

These observations might evidently be interpreted as pure coincidences. Nevertheless, this coincidence has come before me during two years under conditions so precise that I have no hesitation with regard to it.

I would add further, that this coincidence is of sufficient frequency to call for observation. From 1897 to 1899, a period which includes the observations reported above, I have followed in a single practice about twenty severe cases of acute median otitis. A third of the cases (seven times out of twenty) in which this coincidence has been seen will pass as due to contagion. In any case, it must be admitted that I have fallen upon at least a lucky sequence.

Further—and the coincidence here becomes more remarkable—the otitic attacks that I have observed simultaneously in husband and wife, in brother and sister, in employer and servant, were exactly of the *same type*. Therefore, when a healthy individual put in contact with a patient contracts from this contact a disease of identical character, and this is confirmed by its repetition in a third of the cases observed, we are justified in suspecting that there is contagion, rather than in accepting an easy faith in mere coincidence.

A much more serious objection might be raised, and it is this :

We acquire by contagion, it might be said, a *disease*, and not an *affection*, the disease being a morbid process complete in its whole evolution, the affection being this process considered at the moment in one of its actual or local manifestations. Thus, we may contract from another person a disease such as measles, influenza, or even a streptococcosis and pneumonia, but we cannot receive directly

from the patient an affection such as a rubeolous or an influenzal otitis. The localization of measles in the ear, the aural complication, cannot be individualized to such a point as to be transmitted by itself to a healthy individual.

To this I will answer by citing the example of straightforward acute pneumonia. Theoretically we might take for contagion a pneumococcus infection; but a patient with pneumonia ought not to be able to transmit directly to his neighbour an infection such as pneumococcosis localized in the lung. There are abundant examples, however, which show that pneumonia is contagious, and that the pneumococcus can be transmitted from lung to lung. There is nothing, then, which prevents us, by analogy, from admitting that the streptococcus may transmit itself from ear to ear. Since, although the affection of the lung is not a disease, pneumonia is contagious *qua* pneumonia, acute median otitis occurring in the same way being contagious *qua* otitis.

It may further be said to me: "But how can otitis be acquired from the contact of a patient with otitis? The tympanum is not in direct contact with the external ear. That from an angina one may catch an angina, or from a coryza a coryza, is possible, but how can we admit that two organs so deeply situated as the ears can infect each other?"

Such a contagion would be difficult to admit, in fact, if it were as above stated. In certain of our observations it seems at first sight that the otitis broke out suddenly in the neighbourhood of another otitis. In reality, all these patients infected each other by the classical naso-tubal route; they commenced necessarily by having a coryza, but this was so attenuated that clinically it passed unperceived. In the same order of ideas, do we not know of mastoiditis, said to be primary, the origin of which an attentive observer can always trace to a previous latent rhino-salpingitis? Further, to resume my comparison, one gets pneumonia from a pneumonic patient most frequently without presenting the clinical symptoms of laryngitis; the contagion appears to act directly from lung to lung, although these organs are so deeply situated. It is not then impossible that a healthy individual put in contact with one suffering from otitis may catch acute median otitis from him. Nevertheless, this mode of contracting *primary* inflammation of the cavity of the tympanum ought to be excessively rare, and I admit that my observations do not offer a clear demonstration.

Among the facts that I have brought forward, the imparters and the receivers of contagion were almost always affected with a protopathic disease, influenza or measles, on which the affection of

the ear engrafted itself. These forms of otitis were, therefore, *secondary*, coming under the head of complications. What my observations tend to prove is particularly this: *given the first patient affected with influenza complicated with otitis, any other influenzal patient put in contact with him will run a great risk of acquiring this otitic complication.*

For the rest, the history of these cases of otitis may be traced on that of broncho-pneumonias.

Broncho-pneumonia is almost always a secondary affection, occurring chiefly in the course of measles or of influenza. It is not, as clinicians thought for so long, localized in the lungs as a protopathic infectious disease; it is not, as the first bacteriologists thought, the specific microbe which occasions the pulmonary lesions. On the contrary, it is a contingent complication, superposed clinically on the general disease, and due bacteriologically to a secondary infection, especially by the streptococcus.

Let us replace in this statement the word broncho-pneumonia by the word otitis, and we shall merely note an opinion accepted to-day by all aurists. It is neither the unknown agent of measles nor the microbe of Pfeiffer which gives rise to the acute median otitis of measles or influenza, but almost always a streptococcus.

Now the contagiousness of a secondary broncho-pneumonia has been demonstrated, the injurious influence of crowding is manifest. Broncho-pneumonia is of extreme frequency in children's wards in the case, for example, of measles, while this complication is quite exceptional in private practice. (Collet.)

Therefore, by analogy, secondary otitis, which behaves like broncho-pneumonia, ought to have a similar contagiousness.

To convince myself of this, I have made inquiries of a number of *confrères*, especially my colleagues in the hospitals of Paris in charge of wards for contagious diseases. The following are the results:

Measles.—M. Descroizilles, in charge of the wards for measles in the Hôpital des Enfants Malades, noticed about 20 otitides out of every 100 children in these wards on an average. In his private practice the cases of otitis did not exceed 1 in 100. The dangers of aggregation are strongly obvious when we consider these facts.

In the adult the ear is much less liable to attack than in the child; nevertheless, M. Roger, in charge of the wards for measles in the adult, at the hospital of the Porte d'Aubervilliers, noted 80 acute purulent middle-ear inflammations out of 1,081 patients, a proportion of 3.14 per cent. On the other hand, many very

busy children's doctors, among others my friend M. Caron de la Carrière, assured me that they hardly ever observed acute otitis in their practice among children with measles, as long as they carried out antiseptics of the nose and mouth from the commencement of the attack.

Scarlatina.—M. d'Heilly, physician to the wards for scarlet fever at the hospital for sick children, observed 14 per cent. of otitis in his patients, a proportion which rose to 25 per cent. when he ordered the systematic practice of nasal irrigation. In private practice he saw infinitely less of it.

M. Variot, physician to the wards for scarlet fever in the Hôpital Trousseau, writes to me to say that scarlatinal otitis is much less frequent in private than at the hospitals. Among the adult scarlatinal patients in the hospital of the Porte d'Aubervilliers, M. Roger noted, among 997 patients, 3 per cent. of acute purulent otitis.

On the other hand, many children's physicians tell me that within their practice acute otitis is of the utmost rarity in scarlet fever. For my part, during ten years I have only been called once to a private case of scarlatinal otitis.

These statistics, which I have purposely abridged so as only to give the most precise figures, are very instructive; they show clearly the frequency of secondary acute otitis in hospitals and its rarity in private practice.

There is, therefore, justification for making two important remarks:

1. Patients affected with secondary otitis are left in the common ward *without being isolated*;

2. And, with very few exceptions, the cases of acute otitis observed in patients with measles and scarlet fever *have commenced in the ward* a short time only after entrance into the hospital.

Do not these statistics offer an eloquent plea in favour of the contagiousness of secondary acute otitis?

A final argument in favour of the contagiousness of acute otitis is apparent from the character of the different epidemics of influenza which have followed each other at Paris since 1889. In certain winters the influenza has seldom touched the ear; at other times, as in the first epidemic and, as it happened, in the last one, the acute forms of otitis have occurred frequently and have been severe. Now, influenza is conveyed chiefly by contagion from one individual to another. What do these epidemic characters then signify if it is not that in the years when the patients have influenza alone they transmit only influenza, while when it is attended

with secondary otitis they transmit at the same time their influenza and their otitis by a double simultaneous contagion?

My personal observations are not sufficiently numerous to define the clinical characters of the contagiousness of acute otitis. I may, however, for the present, make two remarks :

In the first place, the duration of the period of incubation of acute otitis seems to be fairly short. This has been in my various cases two, three, five, six and seven days respectively : in one alone it extended to two weeks.

In the second place, it is remarkable to see that acute otitis transmits itself while preserving its clinical type as catarrhal, purulent or hæmorrhagic ; its intensity varies, not its form.

One practical conclusion arises from this study : *We must isolate the patients and especially the children affected with acute median otitis*, even if it is primary, and still more if it is superadded as a secondary complication to an infectious disease.

We have seen that broncho-pneumonia and secondary otitis have the same pathogenesis. At the hospital we have considerably diminished the number of broncho-pneumonias, and in doing this have reduced the gravity of the eruptive fevers by separating the simple cases from those with broncho-pneumonia.

We must do the same with regard to otitis. For acute otitis is in no way less serious than broncho-pneumonia. Its apparent benignity lays it little open to suspicion, because it does not easily bring about death in a few days as does broncho-pneumonia. My hospital colleagues, in so kindly placing their statistics at my disposal, have drawn my attention to the fact that in almost all cases the acute aural inflammations had been so mild that they had never necessitated surgical treatment, and that they had been satisfied with ordering boric lotion and carbolized glycerine. However, they add that a good number of children left the hospital before the suppuration had stopped. Therefore the future of these children is gloomy. It is rare for otitis media to bring about death while it exists as such : it is a frequent thing for it to cause death when it has become chronic. Those children who leave the hospital with suppurating ears go to enlarge the number of "otorrhœics" who crowd the special wards, and who often have no other means of escaping a fatal termination than the radical mastoid operation, fortunate still if they get well without the deafness which shuts them out from every career.

To prevent is better than to cure. It is simpler to prevent the occurrence of an acute otitis than to treat it afterwards. In order to realize this idea of prophylaxis, nasal and buccal antiseptics are

excellent, and the results are encouraging; but there is something better to do. Acute otitis is contagious. Let us isolate the otitic cases!

D. G. (*Trans.*)

ON A CASE OF NASAL HYDRORRHOEA.

BY DR. URBANO MELZI,

Director of the Rhino-Laryngological Section in the Great Hospital of Milan.

WE consider as a great rarity the continuous and copious secretion of a perfectly limpid liquid from the nostrils; therefore I think the description of such a case, which I have recently observed in my practice, may be interesting.

The case is one of a lady aged forty, who does not present any symptom of general disease, and who for the last six years, dating from a confinement, has been affected with a continuous and abundant discharge from the left nostril of a perfectly colourless liquid, which has the appearance of pure water, or of the liquid of the pia mater: it is present in so great a quantity as to prevent the invalid from doing any work. Such liquid does not produce any excoriation on the vestibule of the nostril, nor on the upper lip, over which it has been constantly running for so long a time. The handkerchief, when drenched with the discharge, if held before the fire and dried, remains unstiffened and without any mark, as if it had not been used: the liquid is odourless and colourless, and, according to the patient, without taste. The clinical and microscopic examination of the secretion made by Dr. Zenani, of the Serotherapeutic Institut of Milan, gave the following result:

Quantity of the liquid, 6.5 c.c.

Colour slightly turbid, inclining to white, with clear and very small whitish particles suspended in it.

The liquid is very thin, fluid, watery, not viscous, odourless.

Density = 1009.

Reaction slightly alkaline.

No precipitate on heating; absence of albumin.

Very slight turbidity by adding sulphate of ammonium or a concentrated solution of chloride of sodium, or absolute alcohol.

The more important albuminoid seems to be a globuline, because, if we let fall a drop of it into water, we see a light nubecula.

No turbidity by adding cold nitric acid.

It fails to give the reaction of Fehling, and also the biuret reaction; absence of sugar and peptone.

Copious milk-white precipitate by adding nitrate of silver (after having acidulated the liquid with nitric acid); abundant chlorides.

The microscopic examination showed no morphological element; numerous bacteria, some of which are disposed as zooglæa.

Water	...	...	95.6	per cent.
Solid substances	...	...	2.2	,,
Organic substances	...	...	0.8	,,
Inorganic substances	...	...	1.4	,,

The absence of reducing substances, the scarcity of proteid substances, the slight turbidity, as well as some clinical considerations, speak against the characters of the normal cerebro-spinal liquid. On the other hand, the absence of mucin, the absence of morphological elements, the great percentage of inorganic substances, represented especially by the chlorides, are not characters corresponding to those of the liquid of nasal hydrorrhœa. The liquid, according to Dr. Zenani, would approach for its composition to the lachrymal liquid, with which it would have in common the percentage of sodium chloride. However, I must say that a careful examination of the eyes made by Professor Denti, oculist to the Great Hospital of Milan, excluded every affection of the lachrymal apparatus.

The examination of the nose is almost impossible, owing to the innumerable remedies, general and local, attempted by other specialists. Numerous synechiæ, resulting from cauterizations, close the nostril almost completely; these synechiæ are perhaps also the outcome of the ill-treatment undergone by the nostril at the hands of the patient herself; for she finds no other way that affords even the slightest relief to her trouble than that of introducing deeply into the nostril plugs steeped in a saturated solution of cocaine. The sense of smell is preserved comparatively unchanged, having regard to the nasal stenosis, which, according to the patient, did not exist before the disturbance began. Transillumination of the sinus has given negative results.

Judging by the clinical facts, and from the therapeutic considerations (the action of cocaine), if we may accept them, let us admit that the case is probably one of nasal hydrorrhœa, in which, perhaps, a nervous element plays an important part. This could explain in some measure the character of the liquid and the resistance of the disease to all the remedies which have been suggested, both general and local, against nasal hydrorrhœa.

The vibratory massage of the nasal mucous membrane carried out through the little aperture which still remains in the nostril afforded much relief at first, but after a little while the patient did not derive any benefit. After having attempted all the means suggested by the various authorities, it only remained for me to try atropia internally and locally, as suggested by Lermoyez, and also, as a last resource, the very recent cure suggested by Dr. Alexander, of Berlin (*Arch. of Laryng.*, Bd. IX., H. 1), who, by massaging the nasal mucous membrane with plugs steeped in a 5 per cent. solution of protargol, appears to have succeeded in curing an obstinate hydrorrhœa of long standing. But I must confess that my hopes have been completely deluded, for after a little benefit, the patient returned in the original condition.

SEVENTH INTERNATIONAL OTOLOGICAL CONGRESS.

Notice.

OWING to the date for holding the International Medical Congress falling in 1903, it has been decided that the next International Otological Congress shall not take place in that year, but in 1902. The meeting will be held at Bordeaux, under the presidency of Dr. Moure.

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

LONDON, AUGUST 8 TO 12.

(Continued from p. 608.)

PROFESSOR OSTMANN (Marburg) read a paper on *The Therapeutic Effects of Vibratory Massage in Chronic Deafness*.

Long-continued closure of the Eustachian tube, and inflammatory affections of the middle ear frequently give rise to changes in the sound-conducting apparatus, removal of which can by no means always be attained by our present methods of treatment. Any method, therefore, which seems to promise an advance in the treatment of these hitherto incurable cases of deafness, deserves careful and scientific investigation. Vibratory massage of the sound-conducting apparatus appeared to me to constitute such a method. By some specialists it is repudiated off-hand, by others warmly praised, but by none has it yet been scientifically tested.

This scientific testing was undertaken by me in my "Experimental Examination of Massage of the Ear" ("Archiv. f. Ohrenheilk.," Bd. xlv. and xlv., 1, 2). In this investigation I first examined the various kinds of massage apparatus with regard to their mechanical effects as such, and also with regard to their influence on the sound-conducting apparatus of the healthy ear. As a continuation of these experiments it would have been of great value to submit ears with morbid alterations of the sound-conducting apparatus to the same experimental examination, but unfortunately I have not succeeded in obtaining suitable specimens. I therefore proceeded to investigate clinically the curative value of electric vibratory massage, using as subjects patients suffering from chronic deafness due to middle-ear disease. These patients had all been deaf for years, and had been treated, but without effect, in various ways by different doctors.

The most effective method of employing electric vibratory massage was established by my experimental investigations on normal ears. With a stroke of 2 millimetres, even with extremely rapid succession of "air-blows" (*Luftstosse*), there was no danger of injuring the ear by too great pressure. The method of application was accordingly as follows: Hirschmann's (Berlin) electric massage apparatus, set for a 2 millimetre piston-stroke, was applied to the ear daily for ten minutes or more, and driven so fast that 1,000 to 1,200 "air-blows" per minute were driven against the membrana tympani. In one case the sitting was prolonged experimentally to twenty-five minutes. It is of the utmost importance that the apparatus be applied to the ear in an absolutely air-tight manner, because if even the smallest leak exists the sound-conducting apparatus does not take on the vibratory motion, therefore no massage-effect is produced. After massage, applied thus, no signs of irritation, beyond a slight fulness of the plexus mallei, are to be observed objectively, whilst subjectively no disturbance is complained of. Generally the patients stated that they experienced a sensation of warmth in the depth of the ear, which lasted about a quarter of an hour after the sitting.

Four patients have been experimentally tested with massage applied as described: of these three suffered from chronic incurable deafness, the result of middle-ear catarrh of many years' duration, the fourth suffered from sclerosis so far advanced that the patient had to resort to lip-reading to understand speech.

In order to obtain as sound as possible a basis for the estimation of the curative effect of vibratory massage, it was necessary to determine with the utmost exactness the functional status of the

sense of hearing before and during the course of the massage, so as to obtain certain and comparable values.

With this object in view, all objective changes in ear, nose, and throat were noted; then each ear was separately tested by means of the continuous (tone) scale as regards the following:

1. The upper and lower limits of hearing (hereafter called "range of hearing").

2. The duration of hearing for C, c, cⁱ, cⁱⁱ, cⁱⁱⁱ, c^{iv}, c^v, in comparison with the normal.

3. The hearing power by bone-conduction (Weber's and Schwabach's experiments).

4. The comparison between bone- and air-conduction (Rinne's experiment).

5. The hearing-power for whispered numbers 1 to 100 and for whispered words of high, middle, and low tone-values.

The result of the massage in the individual cases was as follows: In no case was there any perceptible objective change. The subjective—sometimes very intense—noises in the ear were never increased by the massage, but rather underwent diminution after a time, though in no case did they completely cease. Just as before, so also during and after the massage, great variations in the intensity of the tinnitus were observed, though as a rule it never regained its original intensity. The lower limit of hearing was increased downwards in some of the cases very considerably, whilst there was also a noteworthy prolongation of the duration of hearing for the octaves C to c^v.

The particulars in each case are given below.

Case 1. Chronic Middle-ear Catarrh. — Hearing-power before commencement of massage:

Range of { Right ear, from E of the great octave to 0.1 Galton.

hearing { Left ear, from G[#] of the contra octave to 0.1 Galton.

Duration of hearing for the octaves C to c^{iv} in comparison to normal, this being reckoned as 100 (see column 1 of the accompanying table, simple oblique shading).

Weber uncertain, rather to the left.

Schwabach + 5 sec.

Rinne $\frac{R... -}{L... -}$

Whispered numbers $\frac{R... \text{ "8" at 15 c.m.}}{L... \text{ "8" at 25 c.m.}}$

Both ears were massaged daily, Sundays and a few short intervals excepted, and no other treatment was applied. Every four to six weeks the hearing-power was tested as above. The

results of these examinations, with the day on which they were undertaken, are given in columns 2, 3 and 4 of the table under Case 1.

The result, after four months' massage, was that the duration of hearing for all octaves from C to c^{iv} had considerably increased, and further, that the lower limit of hearing had extended downwards in right ear from E of the great octave to C of the contra octave; in left ear from $G_{\frac{11}{8}}^{\sharp}$ to C of the contra octave.

Case 2. Chronic Middle-ear Catarrh.—Hearing-power before massage :

Range { R., from A of the subcontra octave to 0.1 Galton.
 { L., from D of the great octave to 0.1 Galton.

Duration for octaves C to c^{iv} in comparison to the normal, the latter being reckoned as 100 (see Case 2, column 1, in the table, simple oblique shading).

Weber more to the left.

Schwabach + 7 sec.

Rinne $\frac{R... - 16 \text{ sec.}}{L... - 18 \text{ sec.}}$

Whispered numbers (residual air) $\frac{R... \text{ "3" at 50 cm.}}{L... \text{ "3" at 5 cm.}}$

Massage was now applied from September 9, 1898, to November 29, 1898. Tested on the latter date, the result was found to be :

Range of hearing extended downwards, right, from A to C of the subcontra octave; left, from D of the great octave to E of the subcontra octave.

Duration of hearing (see column 2, Case 2) was increased for most tones not inconsiderably, though for a few it was decreased.

Case 3. Chronic Middle-ear Catarrh.—Hearing-power before massage :

Range { R from G of the great octave to 1.0 Galton.
 { L. from A of the contra octave to 0.8 Galton.

Duration of hearing for octaves C to c^{iv} in comparison to the normal (the latter being reckoned as 100). See column 1 of Case 3 (simple oblique shading) in the table.

Weber distinctly to the right.

Schwabach + 14 sec.

Rinne $\frac{R... c^i - 11 \text{ sec.}}{L... c - 23 \text{ sec.}}$

Whisper $\frac{R... \text{ "3" at 15 cm.}}{L... \text{ "3" at } \frac{1}{2} \text{ m.}}$

Massage was applied daily, with short interruptions, from October 20, 1898, to February 11, 1899. Examinations of the

hearing-power were undertaken on November 23, 1898, January 1, 1899, and February 11, 1899, with results as shown in columns 2, 3, and 4 of Case 3. It must be admitted that in this case the improvement in auditory acuity was in general very slight; on the left side the duration of hearing for c^i to c^{iv} had even slightly diminished.

The range had increased downwards, right, from G to D of the great octave; left, from A of the contra to G of the subcontra octave.

The tinnitus had greatly diminished. Perhaps it was due to this fact that the patient insisted that her ear-trouble had been not inconsiderably ameliorated, although objectively but little alteration in the conditions was to be noted.

Case 4. Sclerosis.—Hearing-power before commencement of massage :

Range (R., from G of the contra octave to 3·6 Galton.
(L., from A of the contra octave to 2·2 Galton.

Duration of hearing for octaves C to c^{iv} , in comparison to the normal (the latter reckoned as 100). See column 1, Case 4, in the table.

Weber uncertain.

Rinne R. c^i — 23 sec.
L. c — 12 sec.

Schwabach + 5 sec.

On closing both external meatuses, no increase in perception of sound by bone-conduction. Medium-loud numbers heard only when spoken quite close to the ear.

Patient was massaged daily, with short interruptions, during a month. The sittings lasted fifteen minutes, and a 2-millimetre stroke of great rapidity used. Besides this, on certain days slow massage with a 4-millimetre stroke was applied for four minutes.

The results were as follows :

Range.—No change in right; in left ear from A to F of the contra octave, and above from 2·2 to 1·8 Galton. This extension of the upper limit may perhaps be ascribed to faulty observation.

Duration had increased considerably on both sides for all the test tones, as is shown in the table. Further, it is important to note that the hyperæmia of the mucous membrane of the inner tympanic wall disappeared. After a four weeks' course of massage, it was possible to converse with the patient, by speaking near her left ear with somewhat raised voice.

These few cases, here shortly described, naturally cannot suffice to give us a complete picture of the indications and value of

vibratory massage, but are rather to be regarded as forming the first beginnings of a practical and scientific study of this method of treatment. From the foregoing, however, it is evident that a few general points will demand special attention in any further investigations of the subject.

Conclusions.—Vibratory massage is indicated—

1. In chronic deafness resulting from chronic hypertrophic middle-ear catarrh. Here it is to be observed that all pathological changes in throat, nose, or tubes must be removed as far as possible before commencing the massage, and the latter must not be carried out during any acute relapse of the ear condition.

2. In chronic deafness left by acute catarrh or inflammation of middle-ear, and which resists all ordinary methods of treatment.

Vibratory massage is contra-indicated—

1. In all acute inflammatory conditions of the sound-conducting apparatus.

2. In all diseases of the sound-perceiving apparatus, with normal sound-conduction. But should middle-ear disease, causing rigidity of ossicles, exist at the same time, one should surely try whether massage would not improve the condition.

3. From its mode of operation vibratory massage is probably of but little use in middle-ear diseases which lead to considerable displacement—retraction of the ossicles, simple chronic middle-ear catarrh—or to extensive atrophy of the membrane or adhesions of the same. Further observations, however, are required to prove how far massage is useful or harmful in all such cases.

It is impossible to say beforehand whether a given case will profit by vibratory massage; the treatment must be applied for at least a fortnight before a definite opinion can be formed. That in many cases this opinion will be negative, there cannot be the slightest doubt. I hope after further investigations to be able to indicate what kind of case is most likely to derive benefit from this method of treatment.

Massage applied in the way I have described is entirely painless, and, when the indications stated above are observed, is accompanied by no unpleasant results. The total curative effect attainable in a given case is often reached after four weeks of the treatment.

I trust that this communication may induce other workers to investigate this method of treatment, and that so it may lead to the early formation of a definite opinion as to its value.

ARTHUR J. HUTCHISON (*trans.*).

In the discussion which followed on Dr. Ostmann's paper, Dr. COHN (New York) said he had used the massage apparatus for

three years. At first he was hopeful that it was going to help him in improving the hearing. When he had used it several months he became less hopeful, but he hoped that it might assist him in tinnitus. But after three years' conscientious use, he could not say that he had been helped at all. He was speaking of the electrical vibration massage. He found that the noise stopped for a few minutes, but returned in ten minutes or so. He thought he had received better results with the Delstanche apparatus. It was true he had not used it, like Professor Ostmann, for twenty-five minutes. But, on the whole, he did not see any benefit from electrical vibration massage.

Professor LUCÆ said: The Doctor must be very enthusiastic; I am not; and Delstanche's massage is absolutely noiseless, and must therefore be preferred. Delstanche did everything that could be done in this line. I think the massage vibration is dangerous, because it produces hyperæmia. My treatment is the pressure probe; but you will have to learn how to use it, just as well as you have to learn to use the fiddle.

Dr. DUNDAS GRANT said within the last year and a half he had employed another method of massage, which he had the honour of describing before the German Otological Association. The mode of vibration was a mechanical one, and the patient felt it shaking up to the interior of the ear. He thought this method of treatment would be beneficial in all those cases of patients who heard better in the midst of a noise, but he had found it did not answer in all. There had been just a sufficient number of cases, however, considerably improved as regards their hearing, and relief sometimes completely of the tinnitus, to encourage him to try the method of mechanical vibration before telling the patient that nothing could be done. In some cases the results had been singularly gratifying, while it was only in a comparatively small number of cases that benefit had accrued; in a disease like progressive deafness, where everything else left them so much in the lurch, the method he had indicated ought not to be wholly neglected.

Dr. GOLDSTEIN expressed himself in favour of massage, whether by the original method of Delstanche or by one of the various forms of mechanical devices. He did not agree with Professor Ostmann on the length of time. In his paper he (the speaker), touched on the injection of oily preparations into the tympanic cavity just prior to the massage. He believed that the presence of these oily medications in the tympanum softened the adhesions, and in that way brought about more effective results.

Dr. SCATLIFF (Brighton) was understood to express himself favourable to massage.

Dr. OSTMANN, in closing the discussion on pneumatic massage, said: I cannot enter into historical details in the short time allotted to me. I have to say that I never spoke about cures, but only about improvements, as my tables show clearly; this system has, therefore, a certain value, the exact amount of which has still to be found. I am not enthusiastic about it, but I do not fix that value by sharp scientific researches. My ways are much more careful: I never had any untoward results like fainting, or vomiting, or dizziness of the patient. We shall have to find the accurate indications. I am opposed to the patients treating themselves, because they do not know what they do. I tried Professor Lucae's pressure-probe over and over again; the results were not as good as with the massage: the probe takes hold of the chain of ossicles as a pivot, and it cannot work well.

EXPLANATION OF CHARTS.

In the first line across the charts there are indicated the different tones used in testing the duration of hearing. In the second the figures 1, 2, 3, 4, 5 indicate columns referred to in the context. In the third line are the dates at which examinations were made. The shaded areas indicate the percentages of duration of hearing as compared with the normal, the latter being reckoned as 100. In the columns headed 1 (*cf.* C, c, cⁱ, cⁱⁱ, cⁱⁱⁱ, c^{iv}) is indicated for each ear, in each case, and for each tuning-fork, the percentage of duration of hearing before the treatment was commenced. The columns headed 2, 3, 4 give the percentages of duration of hearing at the dates stated—*e.g.*, in Case I., 21, 11, 98; 3, 1, 99, etc.

Dr. DENCH (New York) read a paper *On the Operative Treatment of Mastoid Inflammation*.

He said that an examination of the statistics of the larger hospitals in New York City devoted to the special treatment of diseases of the ear showed that ten years ago the mastoid operation was rarely performed. During the last few years it had been performed almost daily. Another important fact was, while in former years the treatment of intercranial complications of suppurative middle-ear inflammation was relegated entirely to the general surgeon, at the present day these operations were performed by the otologist. Regarding the indications for opening the mastoid process in chronic suppurative otitis media, it was his opinion that the indications for the operation laid down by Schwartze many years ago were those followed at the present day. The only difference was that, under improved surgical technique, by which

perfect asepsis was secured, the surgeon did not hesitate to act on those indications immediately. For this reason, the number of operations was relatively greater than in former years. If he were asked to give the signs which seemed to indicate the necessity of operative treatment in this condition, he should name two: (1) local tenderness over the region of the antrum, and (2) a sagging of the upper and posterior wall of the external auditory meatus close to the membrana tympani. When these signs existed, he believed that operative interference was always indicated. Experience had shown that the temperature of the patient furnished but little indication. Spontaneous pain might also be absent, although the mastoid might have undergone extensive destruction. He was well aware that many surgeons regarded "tip tenderness" as an important diagnostic point. In his experience it had proven of but little value. Owing to the increased frequency with which the mastoid operation was performed, it might be as well to consider any possible dangers which might arise in the operation itself. His own statistics showed that, out of 228 operations upon the mastoid process, in no case could death be attributed to the operation. Where intracranial complications existed, operative treatment offered the only means of relief, and in his own practice had been followed by very flattering results. In thirteen cases in which thrombosis of the lateral sinus was present, death followed in but two cases: one patient died of acute nephritis, which was probably caused by ether narcosis; where there was an epidural abscess, his statistics showed that, of fourteen cases operated on, all recovered.

Regarding the radical operation for the relief of a chronic purulent otitis media with involvement of the mastoid—that was the Stacke-Schwartz operation—seventeen cases had been operated on. Of these, twelve were cured and five improved. It could therefore be easily seen that the mastoid operation was not in itself a dangerous procedure, if the rules of aseptic surgery were closely followed. No operation of this character should be performed without the strictest antiseptic precautions, both as regarded the field of operation and the instruments, also the surgeon's hand. If proper care was taken, the exposure of the meninges, either in the middle or posterior cranial fossa, or exposure of the opening of the lateral sinus, did not increase in any degree the mortality of the operation. On the other hand, he had found that the more extensive and radical the operation, the better the result. He believed, therefore, that the surgeon who operated most frequently and most radically was really more conservative than he who waited for

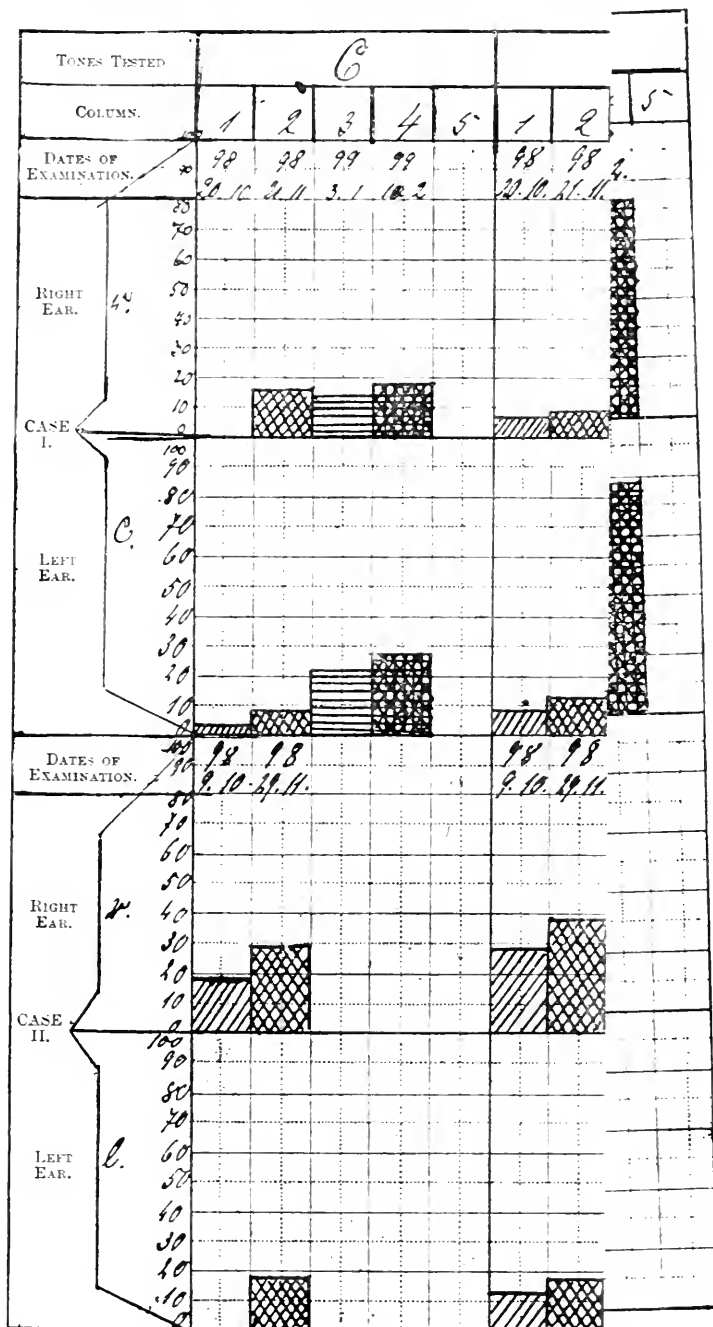




Fig. 1. Illustration of chart see page 641

very pronounced symptoms. Regarding the technique, in the first place the ear should be thoroughly syringed with a solution of bichloride of mercury of a strength of 1:3,000. The canal should be firmly tamponed to the fundus with a strip of iodoform gauze. The next step was to shave the head for an area of 3 inches about the external auditory meatus. The parts should then be thoroughly scrubbed, first with soap and water, and afterwards washed with a solution of bichloride of mercury (1:1,000), and finally with a mixture of equal parts of alcohol and ether. Where possible, it was wise to cover the entire field of operation with a wet bichloride dressing for a few hours previous to the operation. This dressing should not be removed until the patient was thoroughly under the influence of the anæsthetic. The field of operation should then be surrounded by a towel moistened in a 1:1,000 bichloride of mercury solution. All instruments should be carefully sterilized by boiling. It was hardly necessary to say that the hands of the surgeon and of the assistants should receive close attention. The primary incision should lie close to the line of auricular attachment, and should extend from just below the tip of the mastoid to just above the external auditory meatus, the soft parts being divided down to the bone. In this manner a very narrow anterior flap was formed. The anterior flap was pushed forward by means of a periosteum elevator, exposing thoroughly the superior and posterior margins of the bony external auditory canal. The bone was covered posteriorly in a similar manner. All bleeding-points were secured by means of artery clamps. The next step was to sever the attachment of the sterno-mastoid muscle. This was best done by means of blunt scissors curved on the flat. The tendinous attachment of the muscle should be divided until the finger could be passed beneath the tip of the mastoid into the digastric fossa. In every case the mastoid antrum should be first entered. This applied not only to those cases in which perforation of the cortex was present near the region of the antrum, but also where spontaneous perforation had taken place into the digastric fossa through the internal plate of the mastoid. For removing the mastoid cortex he preferred either the chisel or the gouge. The bone should first be removed as close to the posterior wall of the bony meatus as possible, and not above the spinum supra-meatum. The opening in the bone should be gradually deepened until a probe could be passed through the mastoid antrum into the middle ear. The wound should then be explored by means of the probe to ascertain whether the bony walls were intact. After the mastoid antrum had once been entered, the topography of the

process was evident. The entire mastoid cortex should then be removed by means of the chisel or gouge, and the tip removed by the rougher forceps. Great care should be taken to thoroughly curette the aditus and antrum, so as to permit free drainage of the middle ear through the posterior opening. Experience had taught him that the operator was inclined to do a less radical operation than was absolutely necessary. In his later cases, he had found not infrequently that the bone seemed almost normal. Close inspection, however, revealed the fact that it was a little congested and slightly dark in colour. With reference to any possible accidents that might occur during the operation, these, he thought, were of trifling importance, provided aseptic treatment was carried out. He never operated upon a case without expecting to expose or open the lateral sinus, or to enter the cranial cavity. The exposure of the sinus in doubtful cases was imperative, and if its appearance was not perfectly normal, a free incision should be made into the vessel. No harm could possibly result from this procedure, and many a life which would otherwise be lost might be saved by what was apparently a radical and uncalled-for procedure. The same applied to entering the middle cranial fossa. His own cases which had terminated fatally had been those in which he had not done a complete and radical operation.

Professor KNAPP asked Dr. Dench if he attached the same importance to tenderness of pressure in acute cases as in chronic.

Dr. DENCH replied in the negative.

Professor KNAPP said he was in accordance with him.

Dr. ARISTIDE MALHERBE (Paris) read a paper on *Surgical Treatment of Dry Chronic Middle-Ear Otitis by scooping-out (Evidement) the Petro-mastoid Bones with and without Intubation.*

GENTLEMEN: I have the honour to bring before you a new surgical procedure, which I have already published in France, and which I should also like to submit to your consideration. I therefore ask your permission to describe the operation which I have recommended and advised under the name of "Scooping-out (Evidement) the Petro-mastoid," and which has for its object the radical cure, or at least the marked amelioration, of the grave troubles which are caused by dry chronic otitis of the middle ear, troubles against which the resources of our art hitherto available have been employed without much success.

Thanks to the reliable aseptic and antiseptic methods now known to us, the treatment of middle-ear disease has come within the range of modern surgery, and almost all specialists agree that

in dealing with acute and chronic suppuration the only route by which the cavities of the middle ear can be thoroughly exposed and explored is that afforded by perforation of the mastoid process. It seems to me, therefore, logical to conclude that when we are dealing with chronic inflammation and sclerosis, we should follow this same road, one essentially surgical, and for the same reason.

A study of the physiology, of the structure, and of the development of the mastoid cells, and, above all, of one of these cells, the petro-mastoid antrum, which, properly speaking, is a regular and definite part of the middle ear, explains, moreover, the solid ground on which this surgical intervention is based—an intervention which is further authorized by the existence and by the nature of the different anatomical lesions which characterize all that class of affections known as dry middle-ear otitis.

The morbid changes which occur in the cavity of the tympanum—thickening of the mucous membrane, new formation of connective tissue, membranous bands fixing the ossicles—all these spread into the mastoid cells, where they induce thickening and rigidity of the mucous membrane, and more or less complete hyperostosis of the subjacent tissue.

The transmission to the labyrinth of the sound-waves travelling by the *membrana tympani* is effected partly through the chain of ossicles, partly through the air. We can easily understand that alterations which more or less diminish the mobility of the organs charged with the transmission of sound, and which at the same time involve the antrum and its entrance by reducing their dimensions, must cause a marked lessening of the power of hearing.

We may, in fact, look on the middle ear as an excavation filled with air and hollowed out of the base of the petrous bone. By its anterior part this excavation is prolonged just to the back of the cavity at the nasal fossa, whilst posteriorly it spreads into the thickness of the mastoid process of the temporal bone. In a word, it forms a diverticulum which alternately contracts and expands. The first narrow part of this diverticulum stretches from the posterior part of the nasal fossa towards the retiring angle of the temporal, and is known as the Eustachian tube. A rapid dilatation then occurs, forming the cavity of the tympanum; next follows a second, but very short, constriction, being a passage from the petrous to the mastoid portions of the temporal bone; this is the *aditus ad antrum*, and immediately afterwards there is a final dilatation—the petro-mastoid antrum.

The dilated portions of this diverticulum are those which are of the greatest acoustic importance, because they contain the air so

essential to the power of hearing. The petro-mastoid antrum, and likewise the cavity of the tympanum, are formed in fœtal life; hence these two cavities may be regarded as the most important parts of the diverticulum which constitutes the middle ear.

Although vibrations which the membrana tympani may undergo can reach the internal ear by various routes, they travel mainly by the foramen ovale, through the intervention of the somewhat movable stapes. The stapes normally receives the vibrations both through the chain of ossicles and through the air which is contained in the tympanic cavity and in the mastoid cells, or after the operation of clearing out the mastoid bone, especially with the use of a tube, not only through the air in the tympanic cavity, but also through that in the artificially-enlarged antrum, which now gives a much greater resonating apparatus for sound. So true is this that, without wishing to enter into details of comparative anatomy, I may recall the fact that the absence of mastoid cells in many of the mammalia is supplemented by a considerable development of the tympanum, so that in these vertebrates one finds a sort of reciprocity between the size of the tympanic cavity and of the mastoid cells.

This briefly is the arrangement of the parts, and on account of their important anatomical and physiological characters I would apply to them the special designation of the tympano-mastoid system. It is this system which is capable of being usefully modified by surgical interference for the relief of the various lesions which one finds there, and it is of such operative measures that I now wish to speak under the name of scooping-out the petro-mastoid.

Please understand I do not pretend that all cases of chronic deafness are amenable to surgical treatment—far from it; there are, nevertheless, several which can be so relieved, and it is with reference to such that I wish to make a few necessary preliminary observations bearing on the surgical treatment.

The lesions found in the middle ear, sclerosis, and chronic inflammation will be found to have an effect on the hearing which will be important in proportion to their more or less closely involving the principal acoustic parts. The great difference in various cases of deafness is, in fact, mostly due to such and such a structure being affected. In other words, the state of the function of hearing depends on the localization of the morbid process. Generally speaking, deafness, when left to run its own course, has a rather gradual progress, though it may be rapid, and it may be extremely slow. The membrana tympani may be perforated, the ossicles

more or less fixed, but what is essential for hearing is the integrity of the fenestra and the undiminished capacity of the cavities of the middle ear; and since it is as yet impossible in any way to modify morbid changes in the fenestra, all that one can hope to do when the lesion is not too far advanced is to aid the intensity and amplitude of the sonorous waves by increasing, if possible, the mobility of the ossicles and the vibrations of the air in the entire middle ear.

We can say, in a general way, that in the great majority of those affections which we group together under the name of dry chronic otitis of the middle ear there is an obliteration of the tympano-mastoid system, and consequently rarefaction of the air, with augmentation of the intra-auricular pressure, and hence diminution of sonorous vibrations.

As the prognosis of operative interference necessarily depends on the condition of the lesions in the tympano-mastoid system, it can only be arrived at by an attentive study of the state of the different parts of the organ of hearing and of its auditory functions. For this reason I regard it as indispensable to carefully examine the patient in a systematic manner, specially directed to ascertaining the condition of each part and function.

Perception of the sounds of the acoumeter, of the deep-toned tuning-fork, and of ample musical vibrations, such as those of a gong, when conveyed by the atmosphere, should not be much reduced if we are to hope for a perfect result. I should say the same for the duration of the osseous conduction of the sound of a deep-toned tuning-fork, which should continue audible to the patient almost as long as it can be heard through the air by a healthy ear.

The test of centripetal pressure, which is rather more difficult to apply, also gives us information, which must be taken into account, but which may be variously interpreted.

Loss of the power of hearing the note of a high-toned tuning-fork conveyed by the atmosphere is an extremely unfavourable symptom.

It is absolutely necessary to determine the amount of perception for both deep and high tones, because in deafness of a nervous origin the power of recognising high-pitched sounds diminishes early, whilst low sounds are still heard. It is, however, true that in certain affections of the labyrinth the recognition of low sounds may fail more rapidly than that of high sounds. In dry chronic middle-ear otitis, in sclerosis, the deafness is, on the contrary, generally more pronounced for deep sounds, whilst it is less marked for the higher sounds. Diminution in the power of

recognising high notes seems to indicate that the internal ear is commencing to participate in the lesion.

This explains why my operation will give somewhat different results—sometimes very good, sometimes only moderate—according as it is practised on a patient presenting or not presenting the conditions which I have just mentioned, and I can state that, up to the present time, however small some of my results may have been, they nevertheless are incontestable and lasting, which is a sufficiently significant fact, and worthy of remembrance. To always secure perfect results, it would be of the first importance not to wait until the patient is very deaf. We should accordingly endeavour to make him understand that it is in his own interest not to defer the operation too long; for this operation is in no way dangerous, and it may give a very good result so long as the lesions are limited.

Before giving a description of my operation, I should like to say a word about a modification in the technique which I have recently adopted, and which in some cases has given me results far superior to those which I had hitherto obtained. It occurred to me that in order to re-establish the balance of intratympanic pressure, which is often destroyed, and to enlarge the air-spaces, I might, after clearing out the bone, provide a communication between these tympano-mastoid cavities and the external air, thus forming a veritable tubage or canalization of the middle ear.

I obtain this object by means of a small **U**-shaped celluloid tube of about the size of a No. 15 French (No. 9 English) catheter.

This **U**-shaped tube is first asepticized by formyl vapour, and then one end is placed in the antral cavity, whilst, owing to its shape, the concavity of the tube rests on the anterior border of the mastoid process. The other end, which has its convex side bevelled, enters the external auditory canal through an opening made in its posterior wall at the junction of the cartilaginous portion and the bone.

I now come to a description of the different stages of the operation.

For this, as for most surgical procedures, the patient should be prepared as far as possible on the previous day, the scalp should be shaved for a sufficiently wide extent, and the parts covered with an antiseptic dressing. It is convenient to place the head on a thin sand-pillow, to deaden the shocks of the mallet. One assistant takes charge of the chloroform; another assistant, with a brush and soap, thoroughly cleanses the mastoid, the post-auricular

groove, the auricle, and the external auditory meatus, which must be most carefully disinfected with a small mop or swab.

The field of the operation having been cleansed with ether, and then with a solution of corrosive sublimate, 1 in 1,000, and covered with aseptic compresses, I grasp the auricle with the left hand, pulling it forwards and slightly upwards; then, holding the scalpel like a pen, I cut freely through the skin and periosteum, following the line of the retro-auricular groove, commencing above at the insertion of the auricle, and ending at the tip of the mastoid process. The resulting cicatrix is quite invisible.

With a short, strong-bladed knife, I then thoroughly divide the periosteum, and, by means of a periosteal elevator, strip it off sufficiently to detach the auricle and the external auditory cartilage in front, as well as to lay bare the entire surface of the mastoid behind. Peeling off the periosteum freely in this way is essential, because it gives a full view of the parts to be further operated on.

The next step is to stop the bleeding, which comes almost always from the posterior auricular artery, which lies immediately behind the auricle in the auriculo-mastoid groove, adhering to the subcutaneous tissue. Some other small vessels arising from the posterior auricular are generally also divided. One of these goes to the auricle, another anastomoses with the posterior branch of the temporal, and another passes transversely backwards to join the occipital.

A few Kocher's pressure-forceps will be sufficient to check the hæmorrhage from these sources.

I now introduce a grooved director into the external auditory canal, or a pair of the pressure-forceps can be used, with the blades slightly separated, so as to make the posterior wall of the canal tense, while it is being divided longitudinally, as far as the entrance of the meatus. At about a quarter of an inch from this point I cut away two small triangular pieces from the wall of the meatus just at the level of the bony part of the passage, thus making a Y-shaped opening, the tail of which corresponds to the entrance of the meatus, while the two branches bound an orifice intended for the celluloid tube.

It is important to make this opening early in the operation, because it always causes some hæmorrhage, and if a small plug of gauze be pressed into the wound, the bleeding will have stopped during the time occupied in dealing with the bone.

During the next step of the operation (clearing out the petromastoid), the ear should be drawn well forward and the posterior flap fully retracted. If the retractors are given to an assistant,

both his hands will be occupied, and he will not be able to aid in sponging the wound.

In order to avoid this inconvenience I have devised an automatic retractor, which is made of three blunt hooks, placed at the ends of the two blades of strong forceps; the handles are provided with a serrated rack and catch like pressure forceps, and when these handles are approximated, the blades separate and hold the lips of the wound apart. The forceps are curved so as to adapt themselves to the convexity of the head, and the pressure which the blades exert helps in stopping the bleeding.

I now attack the bone with a mallet and gouge. I have found that the best landmarks for this purpose are:

(a) The upper half of the posterior wall of the meatus; this should be well in view, or at least fully recognised by the finger.

(b) The temporal ridge, which is the continuation of the transverse root of the zygoma; it is marked at the level of the meatus by a prominence, the *spina supra meatum*.

The antrum corresponds to a small region which, on the surface of the bone, is bounded anteriorly by a line commencing about one-eighth of an inch below the temporal ridge and lying parallel with the upper half of the posterior wall of the meatus, but about one-fifth of an inch behind it. Another line, one-third of an inch further back, forms the posterior boundary, and a third horizontal line, about a quarter of an inch below the temporal ridge, marks the inferior limit.

By keeping within these limits and working gradually into the bone we open into the antrum, which may lie more or less deeply.

In true sclerosis the bone is as a rule hard, dry and bloodless; the antral cavity is also usually small and without a vestige of fibro-mucous tissue. The aditus is likewise contracted, or even obliterated.

When I have sufficiently enlarged the antrum, I am accustomed to make a canal at the site of the aditus. For this purpose I employ a hand-drill furnished with a small bit, and I then enlarge this canal by means of a borer, mounted on the same drill, until I have made my way into the tympanic cavity and formed a free and complete communication between this cavity and the petro-mastoid antrum. The instrument which I use shelters the facial nerve from danger, and does not cause any splintering. It is only necessary to be thoroughly familiar with the exact position of the aditus, to advance slowly and gently, and, as a further security, to have a sliding sheath, which can be fixed on the bit of the drill or the borer, as a protector, to prevent its slipping in too deeply.

The sudden cessation of resistance tells us when we have penetrated into the tympanum.

Through the canal thus made and suitably enlarged, it is now possible to introduce small hooks, cutting rugines or rasps and fine curettes of a special curvature; I have had instruments made for this purpose: they allow me to explore the cavity of the tympanum and to break down the adhesions which may be found there.

When the ossicles are rigidly fixed, and when, at the same time, the tympano-mastoid cavities are but little affected, I pass a small hook through the external auditory meatus, and, by making a small perforation in the membrana tympani, I steady the handle of the malleus, while I make traction movements on the ossicles with another hook introduced through the aditus. All these manipulations are extremely delicate, and require the greatest gentleness.

It may happen that sometimes, as in inflammatory dry otitis, the oozing of blood is troublesome. I use small strands of sterilized gauze for clearing away the blood; these can be easily passed into all the tortuosities of the bone.

When we have freed the tympanic cavity as much as possible and restored some amount of mobility to the ossicles, it is time to stop.

I look on it as quite useless, and as even injurious, to attempt to move the plate of the stapes. From its anatomical position, any such attempt is certain to cause a fracture of one of the branches of the bone, and to injure the fenestrum ovale to which it adheres firmly. It would probably also cause vertigo and increase the deafness.

I finish the operation by placing one end of the U-shaped tube in the antral cavity in such a way that its concavity lies exactly on the anterior border of the mastoid process. I then replace the auricle, and in doing so, see that the other end of the U-tube lies in the opening already prepared for it in the cartilaginous meatus, so that its sloped end is level with the surface of the posterior wall of the meatus, and does not touch the opposite wall nor obstruct the light. This can easily be seen by looking down the meatus. It is well to put a fine strand of sterilized gauze into the tube before placing it in position, in order to prevent its becoming blocked; the free end of this gauze should project through the external auditory meatus. Another strip of gauze is placed alongside the first in the meatus, to maintain its proper shape while healing.

It now only remains to close the wound, by directly joining the

auricle to the posterior edge of the incision by means of a few points of silkworm-gut suture.

The dressing consists of a crescent-shaped pad of sterilized gauze behind the ear and directly over the wound; a few layers of the same gauze are placed over the ear, and the whole is covered with a liberal thickness of sterilized cotton fixed with a suitable bandage.

This dressing is left untouched for eight days. On the eighth day I remove the sutures, and take away the strips of gauze from the **U**-tube and from the auditory meatus. I put a fresh piece of gauze into the meatus and apply a new light dressing, which remains for two days, by which time the wound is quite healed and the patient cured.

In cases where I do not employ a **U**-tube, I put a fine strip of sterilized gauze in the aditus and the antrum instead of the tube; the end of this gauze likewise passes through the opening prepared for it in the cartilaginous meatus, and then emerges externally. It is removed at the same time as the sutures, the eighth day.

When the tube is left permanently *in situ*, a slight oozing goes on at the place where its sloped end enters the meatus; a simple plug of sterilized cotton, changed daily, is the best dressing for this. A few granulations may also require to be touched with nitrate of silver. The cicatrization is quite firm by the fifteenth, or at most the twentieth, day, by which time the track of the tube will have become lined with epidermis.

All my patients have borne the presence of the tube well; it causes no pain and no inconvenience, and is not visible even when one looks down the meatus. Its bevelled end can, however, be distinguished if an ear speculum is used.

I have now performed this operation of scooping out the petromastoid, either with or without a tube, in sixty cases.

From the facts which have come before me in my practice, I am convinced that, in selecting the cases suitable for operation, we must seriously take into account the diversity which exists in cases of deafness that are commonly grouped together under the generic name of dry chronic otitis of the middle ear.

In many forms of otitis, the dominating condition is contraction of the air cavities by a process of sclerosis.

If we are dealing with congenital lesions, such as smallness of the cavity of the tympanum and of the recesses for the fenestra of the labyrinth—or such as narrowness of the Eustachian tube and of the pharynx—in these cases we meet, in addition to eburnation of the bone from condensing osteitis, with a tympanic cavity re-

duced to tube-like proportions, and whose posterior part consists of a compact sclerosed mass devoid of vessels, in the middle of which the ossicles are buried.

Should we be dealing with old suppurative lesions, there are adhesions between the membrane and the labyrinthine wall of the tympanum. If the ossicles still exist, their mobility is lessened or destroyed, and their mucous covering has become entirely rigid. Furthermore, the spaces which surround the petro-mastoid antrum have undergone complete transformation, and a dense osseous substance as hard as ivory has taken their place, so that there is a veritable bony neoplastic formation occupying these spaces formerly filled with air.

Finally, should we be concerned with sclerous lesions, whether originating as such or following old inflammatory affections, we meet with interstitial thickening of the mucous membrane, which often contains calcareous deposits, with ossifications firmly joining every portion of the sound-transmitting apparatus to the neighbouring parts; sometimes there is new-formed bony tissue around the fenestrum ovale, more or less involving the plate of the stirrup-bone; sometimes the ossicles are anchylosed, and only too often the fenestrum rotundum is ossified.

But in these cases, also, the sclerosing lesions are found spread throughout the entire tympano-mastoid system, and help to diminish its capacity. The gouge meets the mastoid process hard and eburnated, the antrum is shrunken, the aditus is narrowed, or even completely obliterated, and no trace of mucous membrane remains.

In all these cases, where there is manifest diminution of the cavities of the middle ear, scooping-out the petro-mastoid, with the employment of the U-tube, should be the operation selected. It is the operation which secures the greatest scope for the pneumatic functions of the ear.

The same cannot be said with regard to catarrhal lesions, which have not as yet undergone sclerotic degeneration. In such cases there is, properly speaking, no diminution in the size of the cavities of the middle ear. The preponderating feature is a chronic inflammation of the mucous membrane of the tympanic cavity, characterized by new formation of connective tissue and vessels, with membranous bands joining the ossicles to the tympanic walls. There is, in a word, thickening of the mucous tissue, which no doubt, when it involves the fenestrum ovale, is of bad prognosis; but the tympanic cavities are, nevertheless, not reduced in capacity, the antrum and the mastoid cells preserve

their dimensions, and the bone is not indurated; it even bleeds rather freely. There is, to put it briefly, no condensing osteitis.

With the lapse of time it is true that such lesions often become sclerosed, and it is evident that they should then be treated as if they had been primitive sclerotic lesions; otherwise it is to the tympanic cavity and its contents that our efforts must be mainly directed. The "scooping-out" should have in view, above all things, the re-establishment of the functions of the sound-transmitting organs by breaking down of adhesions and freeing of the tympanic cavity. The employment of a tube could only be useful if a complete obstruction of the Eustachian tube existed. This is a comparatively rare condition.

Thus one and the same mode of operating will not be equally appropriate in all those cases which are suitable for surgical interference. The choice of the method to be adopted in each variety will depend on the points I have just considered.

Such, gentlemen, is the operation which I have sought to bring to your notice with some detail. When it is practised under the conditions which I have endeavoured to indicate, it is capable of yielding results which for constancy and perfection cannot, so far as I know, be equalled by any surgical method yet employed.

I do not speak of the immediate results alone, for, as I have had all my patients under observation since the beginning of 1896, I have been able satisfactorily to prove that they still continue to feel the benefits of the operation, both in improved hearing and in the cessation of objective noises. The earlier are therefore as good as the recent results.

If the various considerations which I have just placed before you possess any value, I should like to terminate my remarks by bringing together in the following manner the conclusions which I draw from them.

CONCLUSIONS.

1. The operation which I have proposed and described under the name of scooping-out of the petro-mastoid is by preference the surgical treatment for dry chronic osteitis of the middle ear.

This procedure, based as it is on the physiological, structural, and developmental characters of the tympano-mastoid system, is authorized by the nature of the anatomical alterations which mark all varieties of this disease.

2. This mode of operating is the only one which allows free access to the structures in the cavity of the tympanum, and to the pneumatic appendices of the middle ear.

3. Benefit will follow from the operation if the labyrinth is not yet affected, because the operative results are entirely governed by the state of the lesions of this part.

4. An attentive and methodical examination of the various parts of the auditory apparatus and of their functions is indispensable.

5. The aerial perception of the deep-toned fork should not be reduced too low if we hope to have an entirely satisfactory result.

6. The duration of the osseous conduction of the sound of the deep-toned fork ought to be as long as possible, and nearly equal to the duration of the atmospheric perception of the same sound by a healthy ear.

7. The diminution and, above all, the abolition of atmospheric perception of the sounds of the high-toned fork are extremely grave and unfavourable signs.

8. Both ears should not be operated on at the same time. Unless there be some contra-indication, the surgeon should commence with the deafer ear and that most troubled by subjective noises.

9. The different stages of the operation are :

(a) The retro-auricular incision, displacement of the auricle and meatus, and peeling off the periosteum.

(b) Checking the hæmorrhage and making the opening in posterior wall of the meatus.

(c) Clearing out the bone with a gouge and mallet.

(d) Enlargement of the aditus and opening freely into the tympanum.

(e) Restoring movement to the ossicles and freeing the tympanic cavity from bands and adhesions.

(f) Placing the U-tube and gauze *in situ*.

(g) Complete closure of the wound, and suturing the auricle in position.

(h) Applying the dressing.

10. On the eighth day the sutures are removed, and on the tenth all is terminated.

11. The resulting improvement in hearing will be most marked for sounds of a high tone.

12. Subjective sounds due to a lesion of the transmitting apparatus, and to an augmentation of intratympanic pressure, disappear or diminish progressively after the operation.

13. As the U-tube establishes a permanent communication between the tympano-mastoid cavities and the external ear, intra-auricular pressure is regulated, and, for the same reason, sonorous vibrations are also augmented.

14. Scooping-out the petro-mastoid with the employment of the

tube is indicated in all cases where there is a diminution and narrowing of the spaces of the middle ear, such as occurs in sclerosing lesions and condensing osteitis. It completely provides for the pneumatic functions of the ear.

15. Simple scooping-out of the petro-mastoid is to be preferred in all hyperplastic forms of otitis without chronic lesions of the bone.

16. The aseptic celluloid U-tube when used gives no trouble; it is invisible, and causes neither pain nor discomfort.

17. The benefit secured by the operation continues permanent.

Dr. GOLDSTEIN (St. Louis, U.S.A.) read a paper on *Therapy of the Tympanic Mucous Membrane*.

As the nose, he said, is the natural gateway to the upper respiratory tract and to the ear, so too might they regard the mucous membrane lining the tympanic cavity and contiguous with that of the naso-pharynx as the factor of greatest value in the consideration of middle-ear diseases. The proper moisture, filtration, and temperature of the air we breathed depended on the normal anatomical and physiological functions of the nose, and especially its lining mucous membrane; so too the well-being of the middle-ear cavity was preserved when the adjacent mucous membrane of the Eustachian tubes and naso-pharynx was in a healthy condition. The etiology of more than 70 per cent. of all affections of the tympanic cavity might be found in some disturbance of that delicate mucosa lining the cavity and post-nasal passages. Wherever a pathogenic micro-organism was the factor in rhino-pathology, experience had taught them to carefully guard against the easy and natural invasion of the middle-ear cavity by such a host. In the application of their therapeutic resources for relief of nasal, post-nasal, and pharyngeal affections, too much stress could not be laid on the direct associations which these structures bore to the tympanic cavity. On the other hand, he would offer the criticism that otologists frequently overlooked the importance of active therapeutic measures directed to these accessory areas which must be undertaken in the successful treatment of the middle-ear cavity. Where they were dealing with catarrhal and suppurative middle-ear processes, the causes in by far the majority of cases might be attributed to some lesion in the nose or naso-pharynx, or some pathological change of the mucous membrane lining these areas. While his subject was confined to the consideration of the therapy of the tympanic cavity, this area was so dependent on the well-being of the adjacent structures, and its therapy was so often made diffi-

cult by the pathological influences of this tract, that a brief consideration of these factors was essential. The plea had often been advanced that otology should be distinctly dissociated from rhinology and laryngology. There were often those who looked with disfavour on the otologist of to-day who included the treatment of diseases of the nose, naso-pharynx, and larynx in his professional field. It was one of the purposes of that paper to emphasize the importance of the intimate relations of this triple factor. The calibre of the Eustachian tube leading to the tympanic cavity was mechanically a very small one; the distance from the naso-pharynx was comparatively great; the naso-pharyngeal orifice of the tube was reached by instruments and medications with some difficulty, and the obstacles were numerous. He would arbitrarily divide his subject into two sections—(1) the therapy of the tympanic cavity where the membrana tympani was intact, and where their efforts were directed mainly through the natural channels; (2) where perforations of the membrana tympani were present, admitting of direct medication of the tympanum from the external auditory canal. This classification carried with it a subdivision of the pathology affecting the ear. Thus, in a general way, they might consider the catarrhal and non-suppurative affections of the middle-ear cavity, together with an intact membrana tympani; suppurative otitis media, together with the usual perforation of the membrane. In no class of cases had the variation in therapy been so pronounced in recent years as in the treatment of catarrhal affections of the middle ear. Of the most prominent of these therapeutic measures were inflation, either with the air-bag as first suggested by Politzer or by the intervention of the Eustachian catheter as had been most generally employed; injections of fluid medications, either in an aqueous or an oily menstruum, had been applied to the middle-ear cavity; puncture of the drum membrane by a modified hypodermic syringe needle and injection into the tympanic cavity of pepsin solution; the vapours of ammonium chloride, chloroform, ether, and numerous volatile oils had been used; the pressure probe of Lucae still afforded successful results in some cases. The Eustachian bougie had been advocated where changes in the mucous membrane of the tube and diminishing of its calibre existed; massage of the drum membrane by apparatus ranging from the hand-masseur of Delstanche to the electric masseur engine of Chevalier Jackson were the latest aspirants for recognition in tympanic therapy. Many of these treatments had proved of service in selected cases, but to many of them the treatment of this class of chronic diseases of the ear still yielded but moderate results when taken as a whole. Rational therapeutics found no better field

for practice than in dealing with the chronic inflammations of the middle-ear cavity, whether catarrhal or suppurative in character. Hypertrophic catarrh of the middle ear was almost invariably associated with similar pathological changes in the naso-pharynx. Chronic naso-pharyngeal catarrh, septal and turbinal obstructions, adenoid growths, hypertrophy of the faucial tonsil, and the several acute inflammations of the pharynx accompanying the exanthemata were the main etiological factors of this form of aural catarrh. The mucous membrane lining the Eustachian tube assumed the same hypertrophic condition as that found in chronic nasal and post-nasal catarrh: the tube was narrowed in calibre and was often completely stenosed; the air supplied to the tympanic cavity was cut off, and the drum collapsed in many cases to such an extent that its inner mucous surface was in direct contact with the posterior wall of the tympanum; exudations of serum and mucus were poured into the largely-diminished area of the tympanic cavity. With the continuation of this hypertrophy and its accompaniments the drumhead became thickened and opaque, and adhesions by fibrous bands and tissues of the membrana tympani to the posterior wall of the tympanum, and subsequent ankylosis of the ossicles became imminent. As atrophic rhinitis might be considered the sequel of hypertrophic rhinitis, so sclerotic or adhesive otitis might be regarded as the sequel of hyperplastic hypertrophic otitis.

Anatomically and pathologically they dealt here with aural conditions analogous to those of the nose. It was logical and rational to conclude, therefore, that the form of treatment which yielded most favourable results in these pathological affections of the nose should be applicable to similar affections of the ear. For some time he had used purified petroleum as a base for his medications in the treatment of non-suppurative middle-ear catarrh of the hypertrophic form, and he had even found this therapy of occasional advantage in mild sclerotic otitis media.

The applications to the tympanic cavity were made as follows: A short, hard rubber Eustachian catheter was introduced in the usual manner, and snugly fitted into the naso-pharyngeal orifice of the Eustachian tube. To the cone-shaped end of the catheter was fitted the tip of a glass barrel syringe, two inches in length and one inch in diameter. The syringe was loaded with the desired medication, and, with the catheter and syringe properly adjusted, the patient's head was tilted well backwards, inclined towards the ear to be medicated, and the piston gradually pressed home. In the majority of cases, after six or eight drops had been delivered, the patient would state that he felt an unusual fullness in the ear. The syringe

was then detached and the cone-shaped tip of the compressed air apparatus adjusted; a few short taps, and then a steady air-pressure, continued for eight or ten seconds, is given. This ensured the penetration of the tympanic cavity by the fluid. He had convinced himself on numerous occasions of the penetrability of this fluid by applying it not only in chronic catarrhal conditions of the middle ear where the membrana tympani was intact, but also in the treatment of middle-ear cavities, suppurative or non-suppurative, where perforations of the drum membrane existed; where such perforations were present, this dark-coloured oily fluid might be found on examination exuding from the auditory canal.

The drugs he had employed, which had given the best results in their application to hypertrophy of the nasal mucous membrane, were iodine, menthol, carbolic acid, eucalyptus, etc.

It was understood, of course, that the auscultation tube was employed in these inflations in the first place to determine the patulency of the Eustachian tube; in the second, to detect the bubbling sound which was made by the injected fluid as it entered the tympanic cavity. The many difficulties of properly reaching the tubal orifice as the result of various nasal obstructions produced by large turbinals, septal deflections and thickenings, spurs and growths, was overcome by operative intervention.

Where the examination of the patient had determined the fact that the Eustachian tube offered obstruction to the free passage of air or fluids, or where irregularities in the nasal passages occurred to prevent satisfactory catheterization, he had used continued vapour inflations with good results. For this purpose he employed a globe hand-nebulizer, to which was attached a short flexible strap armed with a glass nasal tip. He availed himself of the most excellent suggestion of Dundas Grant, namely, that of directing the patient to blow through a narrow-calibred tube. When the Eustachian tube was patent, he usually succeeded in obtaining a continuous and considerable vaporization of the tympanic cavity by this means. It was understood that a continuous air-current was used in connection with the vaporizer, instead of the usual rubber inflation ball. Following the injection or vaporization of the tympanic cavity by such medicated petroleum products as he applied, the aural masseur either operated by hand or by compressed air. He assumed that as the contents of the tympanic cavity were brought into contact with these oily vapours or solutions, they had a tendency to soften the fibrous bands and adhesions, and that this was an opportune time to apply massage to the drum membrane. The result of this plan of treatment had

proved superior to many of the older therapeutic suggestions, both as to the rapidity with which improvement had been noticed, and also from the fact that this course of treatment had frequently proved successful when the usual methods had failed. It was in that large class of cases of chronic suppurative otitis media, where the constant presence of purulent secretions threatened the destruction of the soft tissues of the tympanum, where ossicular necrosis was imminent, and where an extension of the inflammatory products to the accessory spaces of this cavity was possible, that conservative otology should be practised. Here the radical operator, with his often too active interference, frequently promoted unfavourable results.

A question which had often been of considerable bacteriological interest was the fact that micro-organisms could be retained within the area of the middle-ear cavity for so long a time without giving rise to a further extension of the inflammatory process. They came in contact daily with suppurations of the middle ear which had existed for months and years without indication of tissue destruction, and without causing the patient any inconvenience beyond that of discharge. This fact should appeal to them as one of much clinical value. Here was a cavity lined with mucous membrane which microscopically was very similar in structure with that of the Eustachian tube and its naso-pharyngeal orifice. This continuity of tissue extended from the naso-pharynx to the tympanic cavity, as well as the attic, antrum and mastoid cells. Bacteriologically they knew that micro-organisms found a specially favourable habitat on mucous membrane, and that this suitable culture medium, supplemented by a moist serous surface and a fairly uniform temperature such as was found in the tympanum, offered the best possible opportunity for the rapid spread from an infected focus. They knew, furthermore, that over 70 per cent. of the suppurative affections of the tympanic cavity were due to an extension and infection from the naso-pharynx via the Eustachian tube. Through this section of the mucous tract an extension of infection to the tympanic cavity was rapid; conversely, in the chronic forms of suppurative infection of the middle ear, an extension to the more vital areas of the attic, antrum and mastoid was slow. It would be interesting to determine the reason for this decided difference in the tendency of the micro-organisms to spread; on the one hand, the rapid spread from the naso-pharynx via the Eustachian tube to the tympanic cavity via the attic and antrum to the mastoid cells. He did not assume that even the most radical enthusiast would undertake operative procedure for the relief of

chronic suppurative otitis media until he had given a fair time to milder measures. It was to the application of these therapeutic measures that he desired to direct attention.

In a brief paper he recently published, he attempted to compare the two systems of treatment which had, in recent years, been given every practical test, one so-called dry treatment, the other irrigation and syringing with various antiseptic solutions. In summing up the advantages and disadvantages which either of these methods might afford, he had considered the pathological status of the affected area, the character of the discharge, and the size of the perforation, as factors.

From a close comparison of these two methods, he believed that the constant use of the syringe and irrigation of the auditory canal were distinctly contra-indicated in active suppurative cases where large perforations of the membrana tympani existed, and where a free entrance of the fluid in the tympanic cavity was so easily effected. In the first place, the mucous membrane of the tympanic cavity bathed in purulent secretions afforded an excellent supply of infectious material which the force of the current from the syringe or douche might wash into the remote and healthy areas of this cavity, and thus mechanically produce an infection of the attic or antrum where none had previously existed. He thought he could substantiate the assumption that many of the cases requiring mastoid interference or ossiculectomy had been unconsciously produced by the too liberal use of the syringe as a cleansing agent in suppurative otitis media.

Otological literature contained frequent references and admonitions as to the indiscriminate use of the nasal douche, especially when handled by the patient himself, and pointed to a subsequent infection of the tympanic cavity as the result of this procedure. If this was so frequently possible by the carrying of the fluid through the entire tract of the Eustachian tube, how much more readily could a similar result ensue when the syringe was brought directly into contact with the tympanic cavity through a large perforation of the membrane. The second factor contra-indicating the use of aqueous fluids in these conditions was the pathological status of the tympanic cavity itself. The tympanic cavity, during a suppurative otitis, was constantly bathed by purulent secretions, resulting in a sodden, boggy surface, and this was accentuated by the addition of aqueous fluids. It was this very stimulation and irritation of the mucous membrane by the fluids with which it was brought into contact that caused granulation and polypus formation.

In his concluding remarks, Dr. Goldstein said in his paper he had simply recorded several experiences from practical work, which, by comparison with the various therapeutic measures with which he had become familiar, had offered better possibilities, and he desired to emphasize his plea against the indiscriminate use of the syringe; against the indifference frequently observed in medication of the nasal passages and naso-pharynx when treating the ear; against too hasty operative steps, when milder measures, if given a fair trial, would succeed; and in favour of petroleum preparation in preference to aqueous solution as a basis for sprays and vapours; of the dry dressing in suppurative otitis, and especially of massage, prolonged inflation, and medicated petroleum injection into the tympanum, all effected at the same sitting.

Dr. LEDERMAN (New York) endorsed the remarks of Dr. Goldstein, and desired to emphasize the importance of treating pathological lesions in the nose and naso-pharynx in cases of chronic middle-ear catarrh. It had been his custom for the last few years to treat the mucous membrane of the Eustachian tube in a similar manner as practised upon that of the nose and naso-pharynx. The intimate association of these cavities was readily seen in cases of acute otitis following catarrhal conditions of the nose and post-nasal space. Suitable aeration of the tube and middle ear was an important factor in the treatment of these cases. For this reason they first attacked any obstruction of the nose or naso-pharynx. After these passages were free, they might then with impunity apply their oily applications in suitable strength. It was always advisable to begin with solutions—iodine in combination with menthol, about 5 grains of the former to 10 of the latter, to the ounce of any oily menstruum, preferably benzonine, had acted satisfactorily in his hands. In suppurative conditions cleanliness played a very important part.

Dr. HOLINGER (Chicago) protested against the inference that existing hypertrophy of the mucosa of the middle ear or nose could be materially reduced by the topical application of vapours or oily emulsions, as described by Dr. Goldstein. When hypertrophy was present, there was permanent thickening of the tissue, and it could only be removed by caustic or surgical measures. The value of topical treatment to true hypertrophy was limited to its influence upon the vascular and lymphatic circulation. In this way the local processes might be so modified as to reduce the vascular engorgement and to accelerate the lymphatic flow, thereby establishing a better nutrition process in the mucosa.

Dr. F. FAULDER WHITE (Coventry) contributed a paper on *The Curability of Suppurative Otitis Media, without Operation.* [Abstract.]

The attitude of the profession towards this disease is still unsatisfactory: its importance has not been generally recognised. Treatment in the past left too much to the patient. To effect a cure, skilled attendance is absolutely necessary. In uncomplicated cases operations on the bone are not called for. The treatment advised is frequent washings with hot antiseptic solutions, to purify the diseased parts, and arouse tissue vitality. The possibility of reaching the diseased parts by irrigation through a large perforation is brought forward. Small perforations should be enlarged. The Higginson syringe is preferred to brass or glass instruments, and a saturated solution of silico-fluoride of potassium, with three parts of water, is recommended for general use. Attention is called to the dangers of the alcohol treatment, and of that by dry dressings in the early stages. The objections made against the douche are considered to be theoretical, and can receive no support from the author's experience. The results of silico-fluoride irrigation in chronic suppurative otitis have been satisfactory.

PHILIP DE SANTI (London) contributed a paper on *The Radical Cure of Chronic Purulent Otorrhoea by Antrectomy and Attico-antrectomy, based on the Results of Twenty-six Operations.* [Abstract.]

Number of patients operated on was 18, and number of operations 26.

In every case systematic and long-continued local treatment had been carried out prior to operation.

In regard to age and sex, youngest was five years, oldest fifty; 10 were females, 8 were males.

With regard to duration of purulent mischief, the shortest was six months; longest, fifteen years.

In 20 cases antrectomy was performed; in 6 cases attico-antrectomy. In 3 cases the lateral sinus was exposed and abnormal in situation; no harm accrued. In 1 case was the facial nerve wounded; this accident was caused whilst chiselling the postero-superior wall of the meatus.

Unless very careful attention be given to the after-treatment, results are unsatisfactory. In this series of cases after-treatment ranged from one month to eighteen months.

The object is to afford proper and efficient drainage until all discharge ceases. He had tried the dry treatment advocated by

Professor Macewen, but in no case had he been able to get healing under a dry dressing.

Results.—Out of 18 patients operated on in 1896 and 1897, all of whom were suffering from intractable purulent otorrhœa, an eventual cure resulted in 17.

Twenty Antrectomies :

Discharge cured	-	-	-	-	17 cases
Marked benefit (now cured)	-	-	-	-	2 „
Failure	-	-	-	-	1 case *

Six Attico-antrectomies :

Discharge cured	-	-	-	-	5 cases
Failure	-	-	-	-	1 case *

The longest period of immunity since operation from discharge is three and a half years, the shortest two years.

In the one case of failure the patient was tubercular, and there were tubercle bacilli in the aural purulent discharge.

With regard to hearing :

Considerably improved	-	-	-	-	9 cases
Not noted	-	-	-	-	5 „
Not improved	-	-	-	-	4 „

The most instructive case of the series was one in which he performed antrectomy for purulent chronic otorrhœa of right side in April, 1896. All discharge ceased within three months.

Patient was lost sight of until October, 1898, when he was brought with symptoms of intracranial mischief and *left* suppurative otorrhœa. He had remained quite well on the right side since the operation of 1896. An operation was performed for left sinus thrombosis and cerebellar abscess, and though the abscess was opened and drained, the sinus clot turned out, and the internal jugular vein tied, he died seventeen days later. The right temporal bone, post-mortem, showed a permanent cure.

Presupposing a genuinely chronic affection, and that proper and long-continued treatment has been tried by the external meatus and Eustachian tubes, the indications for opening the mastoid, in his opinion, are :

1. Simple chronic purulent inflammation of the middle ear which has resisted prolonged treatment through the external meatus and Eustachian tubes.

2. Same conditions when accompanied by the formation of granulation and polypi, which recur after removal, and in which carious bone is diagnosed.

* Same case.

3. Attic suppuration in which carious ossicles, if present, have been removed, counter-drainage in the membrane made, and intratympanic syringing carried out, but without success.

4. Cholesteatomata.

5. Constant pain in mastoid, pointing to sclerosis.

6. Great narrowing or closure of external meatus from chronic inflammation or hyperostosis or exostosis.

7. In cases with sinus leading from the mastoid or deep external meatus.

PHILIP DE SANTI (London) contributed *Some Cases illustrating the Intracranial Complications of Neglected Otorrhoea*. [Abstract.]

Case 1.—Mastoid abscess; perforation of tegmen. Exploration of antrum, lateral sinus, and temporo-sphenoidal lobe. Death.

A male, aged thirty-five, pricked the drum of the left ear with a hairpin at Christmas, 1895. This was followed within three hours by pain and deafness. The pain was continuous for six weeks.

He was seen by me March 2, 1896. There was then a large perforation of the left membrana tympani, the ossicles were gone, and a large mastoid subperiosteal abscess presented itself. The patient declined admission to hospital.

On March 6, being much worse, he consented to come into hospital. The temperature was then 101°. There was vomiting, and tenderness over left parietal region and internal jugular vein. I operated at once, evacuated foul pus from the mastoid, and followed up a sinus in the cortex which led to the tegmen antri, which was perforated. I explored lateral sinus and temporo-sphenoidal lobes, with negative result.

On March 9 patient died from meningo-encephalitis. Post-mortem there was found general purulent cerebro-spinal meningitis; both tympana full of pus. The dura mater was not especially affected at sites of operation.

Case 2.—Symptoms of intracranial abscess. Exploration of mastoid, cerebrum, and cerebellum negative.—Recurrence of symptoms one year later. Evacuation of extradural abscess. Recovery.

Woman, aged twenty-one. Admitted to hospital February 7, 1896. Discharge from both ears from age of seven and a half. Adenoids and tonsils removed six years previously; also both mastoids explored in 1894. On admission persistent giddiness and headache on right side of two weeks' duration, apathy, stupidity; drowsiness for a week, and increasing. Occasional sharp attacks of pain on right mastoid and parietal regions. Temperature 99°·4;

pulse 70°. Nausea; constipation; emaciation. Profuse foetid discharge from both ears.

February 14: I explored mastoid, temporo-sphenoidal lobe, and cerebellum, with negative results. She made an excellent recovery, and all her symptoms cleared up.

A year later they recurred, and on further exploration I found and evacuated an extradural abscess situated between the dura mater and the posterior aspect of the petrous portion of the temporal bone and in the bone itself. About 9½ drachms of pus were evacuated. Patient made an excellent recovery. Facial paralysis supervened on March 23. This has since cleared up. Patient at present is quite well.

Case 3.—Mastoid abscess; lateral sinus pyæmia, also of superior longitudinal sinus and internal jugular vein; necrosis of temporal bone. Exploration. Death.

A boy, admitted November 2, 1898, with large fluctuating swelling over left mastoid. There had been a left otorrhœa for one year.

November 3: My colleague, Mr. Stonham, evacuated pus from abscess, also from mastoid antrum. Patient made good progress until November 9, when temperature began to rise.

November 16: Rigors; pulse 100° to 153°. Wound examined; retention of pus found.

November 23: Temperature remaining very high, with rigors. I laid original wound bare, enlarged it downwards and backwards, and let out retained pus. Pus between lateral sinus and groove; sinus not thrombosed. No improvement followed.

On December 15 Mr. Stonham trephined postero-inferior angle of parietal bone, and explored for cerebral abscess, with negative result. Lateral sinus was examined, but no pus was found. Boy got weaker, and died December 23.

Post-mortem.—A septic thrombosis occupied left lateral sinus and superior longitudinal sinus, also left internal jugular vein. There was necrosis of temporal bone. No meningitis was present, but abscesses were found in lungs and spleen.

Case 4.—Right temporo-sphenoidal abscess; leptomeningitis. Death.

Man, aged twenty-one, attended my ear clinic October 19, 1897, for double otorrhœa of sixteen years' duration. A large polypus was removed from right ear.

Two days after removal of polypus patient had an attack of middle-ear inflammation, which yielded to treatment. The case went on well until November 3, when great occipital pain was

noted. Nothing further until November 7, when temperature rose to 101° , pulse became irregular, the tongue foul, and vomiting occurred.

On admission, November 8, there were well-marked symptoms of leptomeningitis. At no time were there any physical signs in eyes, face, mastoids, trunk, or limbs.

Post-mortem.—In right temporo-sphenoidal lobe there was a sphenoidal abscess, with thick wall and dirty greenish, partly purulent, partly necrotic tissue. Abscess was in direct communication with tympanum by a perforation through roof and dura mater covering it.

Case 5.—Lateral sinus pyæmia; cerebellar abscess. Exploration; ligation of internal jugular; evacuation of cerebellar abscess. Death.

A boy, aged nine, admitted October 16, 1898. In April, 1896, I did a radical cure on right side for persistent otorrhœa. This was entirely successful, and remained so. Lost sight of patient until admission, October, 1898, with left ear complications.

There were delirium, tremors, constipation, retching, and a high temperature; œdema of left mastoid; parietal and frontal headache; tenderness along internal jugular vein.

I evacuated pus from the mastoid antrum, explored lateral sinus, which was thrombosed, turned out a clot, tied internal jugular vein, and evacuated large foul cerebellar abscess.

The case passed out of my hands into those of one of my colleagues. Patient at first did well, but subsequently the rigors recurred, and he died seventeen days after admission.

Post-mortem.—An abscess of the left lower half of the cerebellum, with thick necrotic tissue, was found. No general meningitis. The right middle ear, previously operated upon, was quite healthy. The left internal jugular vein, which was ligatured opposite the cricoid, contained pus in the upper part as far as the lateral sinus.

SOCIETIES' MEETINGS.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

Annual General Meeting, Friday, October 27, 1899.

Dr. BARCLAY BARON, *President, in the chair.*

THE PRESIDENT'S ADDRESS.

GENTLEMEN,—In taking this presidential chair, to which of your great kindness you have called me, my first duty and pleasure is to return you my heartfelt thanks for the honour that you have done me. Believe me when I say that I utter no mere formal words in expressing to you my sense of the inadequacy of my practical experience of the subjects with which we deal in this Society, to follow those eminent specialists who have preceded me in this office. I shall have to crave your indulgence for the commission of many blunders during my year of office, but at least I will promise to do all that in me lies to promote the interests of our Association, and whatever errors I commit will be those of judgment, and not of heart.

I am one of those who many years ago was appointed to the staff of physicians of a large provincial general hospital. From the position as general physician I gradually emerged into that of the special appointment which I now hold. I thus built the edifice of specialism on what I believe to be the only true foundation, viz., that of generalism, if I may so term it. I have always felt that specialists owe a deep debt of gratitude to their medical brethren who practise general medicine and surgery. It is they who are constantly adding to our knowledge of diagnosis and treatment, which we in turn apply to those organs which specially concern us; and no specialist can ever afford to neglect to keep himself well posted in what is being done by his general medical and surgical colleagues. Having this profound conviction of the value to us of the work done by our colleagues, I have ventured to ask myself, Do we specialists also do work worthy of recognition by them? Do we, in other words, act as a lamp to the feet of the man who is groping in the dark for a diagnosis? Can we say that the stones which we have placed in the great temple of healing are squarely cut and truly laid? Well, gentlemen, I have no hesitation in answering these questions in the affirmative. In support

of this let us turn to the three divisions into which the work of our Society is divided, and, firstly, laryngology. Who will venture to deny the value of trained laryngoscopy in the recognition of *early malignant disease of the larynx*? Not long ago I saw, in consultation with a surgical colleague, a healthy-looking, powerfully-built, middle-aged man who had been a public singer, and who had noticed a small lump in his neck and slight hoarseness. The lump was an enlarged gland; the hoarseness was so slight as to be practically unnoticeable. No cause could be found in the mouth for the enlargement of the gland. Just as every man in this room would have done, I easily detected the glandular enlargement to be secondary to extrinsic laryngeal epithelioma, on which my colleague operated. We know that *laryngeal tuberculosis* is sometimes primary. But I believe that it is impossible to say in very early cases of tuberculosis attacking the throat and the lung that, because the disease was discovered first in the larynx, it necessarily originated there, because we know that the eye of the laryngoscopist is quicker than the ear of the most experienced auscultator. The value of the early recognition of tuberculosis is obvious.

In the next place, if we consider the bearing upon diagnosis and treatment of the discovery of *lesions affecting the roots or the course of laryngeal nerves* by the alteration of the mobility of the vocal cords which they produce, we shall see how important is the trained use of the laryngoscope. It has doubtless fallen to the lot of every man here to suggest to the general physician the advisability of looking for central disease, or, as is more common, intrathoracic pressure on the recurrent laryngeal nerve, where we meet with symptoms indicating lesion of this nerve. In this way have we not been of the greatest service to our colleague by enabling him to make a definite diagnosis, which, without our assistance, would certainly have been delayed, no other symptom save that of laryngeal origin having been noticed? Again, we have often been of service to the neurologist by recognising *double abductor paralysis*, which, as we know, is so often due to disease of the medulla. And in the differential diagnosis between unilateral abductor paralysis and that of one recurrent laryngeal nerve, the laryngoscope distinctly helps the position, because the former is so much more likely to be of central origin than the latter. In spasm of the glottis of hysterical origin, we have all been able to soothe the anxieties of doctor and patient by accurately interpreting the true character of the serious phenomena presented. We have, I think, a public duty to perform in helping that large body of men and women who are employed in our Board Schools to get that necessary

amount of instruction in voice use for want of which they are so constantly falling into our hands with throat ailments. We can and ought to influence School Boards in this direction. Dealing next with the *pharynx* and *naso-pharynx*, although we are well aware of the connection of rheumatism with acute tonsillitis, the profession at large needs to be reminded of this, as we know so well the great benefit, in the prevention of suppuration, which comes from the early application of suitable treatment. And here again we have a public duty to perform in insisting that all "backward" children who are being educated by School Boards should have the naso-pharynx and tonsils, as well as the ears, examined, and, if abnormal, treated. Much time may be wasted in attempting to educate children who are "backward," partly because they have the naso-pharynx and ears unhealthy, deafness and aprosexia accounting to some extent for the "backwardness."

I should hesitate to take up your time by mentioning the grand results that accrue from the removal of adenoids, were it not that, not long ago, a surgeon of some eminence ventured to suggest that operation could frequently be dispensed with if we teach our patients who have these growths to breathe through the nose. This is practically equivalent to suggesting that we should attempt to draw fluid from a corked bottle without removing the cork. Turning to rhinology, the *nose* itself has been a fertile field for a great many new operative procedures performed by instruments of very various patterns, and it may be that a good deal of the industry of the backwoods-man has been shown in clearing away spurs and turbinates, and straightening septa. Rhinologists have been taken severely to task for some of their methods, but yet there can be no doubt of the enormous benefit that has come from the determination to turn mouth-breathers into nose-breathers, and to ventilate the middle ear by removing nasal obstruction. And whatever may be our individual opinion of the rôle which spurs and enlarged sensitive turbinates play in the production of *asthma*, I know from personal experience how very frequently these abnormalities exist coincidentally in asthmatics. And it is my firm belief that we very greatly help the physician who is treating a case of *asthma* by pointing out to him the presence of these abnormalities, and by carrying out the operations necessary for their removal. Our special treatment and his general treatment should always go hand-in-hand. And many cases of headache are only curable by treating the nose.

Dealing with the *accessory sinuses*, every one of us here has doubtless found that some cases of so-called neuralgia and head-

ache are really due to pressure of pus in one or other of these cavities. This discovery very distinctly shows in what way alone the patient can obtain relief from pain, the origin of which has hitherto been so puzzling. We have lately had added to our list of diseases *cerebral rhinorrhœa* by a rhinologist, and the attention that has been drawn to this may help the whole profession.

Regarding the *ear*, I would only say that the dangerous fiction that the usual surgical measures of drainage and asepsis can with impunity be omitted when dealing with suppuration of this organ is by no means dead. We all frequently see children whose parents have been advised to do nothing to stop a septic discharge from the ear, because "the child would grow out of it." It is our duty to combat this dangerous statement to the best of our ability, knowing as we do the dangers of neglected aural suppuration, and the serious operations that so often are rendered necessary by this neglect.

Now, gentlemen, I do not pretend that I have delivered a Presidential address; I have only made a few remarks of a most ordinary character, and I crave your indulgence if I have unworthily occupied your time. I am well aware that my words are by no means up to the literary standard which has been set before us by my predecessors in this office. Fortunately for me, the success of our meetings does not rest on my shoulders. We have a splendid membership, and the responsibility of keeping our Society alive and flourishing rests with our Fellows. Our first great President, who was the pioneer in this country of diagnosis and treatment of throat and nose disease, whose words we remember, whose books we read, whose instruments we still use, left us, at the close of his year of office, a flourishing society. Have we done our duty by it in the years that have elapsed since that time? I do not think that our attendance-book enables me to answer this question in the affirmative. May I, then, hope for your active co-operation in bringing interesting cases before us, and in coming to the meetings to give us the benefit of your wide and ripe experience? Whatever I can do to advance the interests of the Society will always be done, but let me beg of you to help me to leave our Association, at the end of my year of office, in a thoroughly sound and vigorous condition.

The PRESIDENT showed a child, four years old, who had two completely separated uvulas. There was deficiency in the complete closure of the palate against the entry of fluids and soft solids into the naso-pharynx and nose on deglutition, as shown by their regurgitation.

There was also a peculiar alteration of speech, nearly all the consonants at the commencement of words being omitted, and various consonants changed into *n*, so that *dog* would be pronounced *on*, and *pig*, *in*; whilst *ran* and *van* both became *nan*. On the other hand, *not* was correctly pronounced, and *mamma* also.

There was slight enlargement of the naso-pharyngeal tonsil (adenoids), but the mouth is closed at night when asleep, by day also, even when taking exercise.

The questions are :

1. Has the duplication of the uvula anything to do with the peculiar speech, it being held that it has to do with regurgitation of fluids into the nose?

2. If so, will operation, either to join them or to remove them, cure both speech and regurgitation?

3. Will removal of the slight adenoids present be of value?

In any event, accurate training is evidently necessary to improve speech.

Mr. BARK considered that the curious speech defect in this patient had no connection with the condition of double uvula, and suggested a course of training for its cure.

Mr. WYATT WINGRAVE considered the condition to be one of cleft palate, but that the peculiar speech was chiefly due to idioglossia rather than to the structural defect.

Dr. DENNIS VINRACE viewed the condition as a congenital malformation—in fact, slight cleft palate. Deficiency of soft palate simulating double uvula, but no uvula really present. Defect of speech due to same cause as in cleft palate. *Treatment*.—Plastic operation, to repair the palate as far as possible, and unite the uvula-like pieces of tissue.

Dr. DUNDAS GRANT read notes of *A Case of Sudden Nerve-deafness, with Unusual Features*.

Nurse —, aged forty, was referred to me on October 19, 1899, on account of deafness in her right ear.

For many years she had suffered from suppurative inflammation of the opposite ear, but recently when she awoke on the morning of October 5th, of the present year, she found herself absolutely deaf in the right ear.

Her menses had been present with abnormal profuseness, and at the same time she had a severe attack of what she supposed to be diarrhœa, which was accompanied by a very considerable discharge of blood from the bowels. Two days after the occurrence of the deafness she became affected with severe vertigo and a feeling

of sickness, but the vertigo was rather of the nature of a confusion than actually a sensation as if things were rotating round her.

On testing her hearing, it was found that the defect on the right side was a nerve-deafness, but that the hearing for the highest pitched tones was comparatively well preserved. I append charts of the hearing power, as taken by Dr. Mackintosh, from which will be seen that in the left ear there is the condition usual in disease of the middle ear. On the right side, however, where there is no disease of the middle ear, the loss of hearing is chiefly for tones of middle pitch.

This case, therefore, differed from the typical case of cochlear effusion in which the hearing for the highest pitched tones is destroyed, and I therefore thought rather of a central or functional cause.

Seeking for stigmata of hysteria, I found well-marked diminution of the pharyngeal reflex, highly-exaggerated knee-jerks, and comparative hemianæsthesia on the right side of the face and body.

The question now arises as to whether we have to deal with a case of Ménière's disease, or with one of anæmia of the auditory nerve and centres due to the menorrhagia and intestinal hæmorrhage, or one of hysterical nerve-deafness due to the nervous shock occasioned by this hæmorrhage and at the same time by the approach of the menopause. Possibly these various causes in combination may have helped to produce the result, but I confess that with these data before me I feel unable to arrive at any definite conclusion.

On Monday, the 23rd, there was already a decided improvement in the hearing power of the right ear, and to-day it is very nearly normal.

Mr. WYATT WINGRAVE emphasized the necessity for recognising the existence of gastro-intestinal influences in these cases, both toxic and reflex.

Dr. DUNDAS GRANT. *Microscopical Section, Epithelioma, from the Temporal Bone.*

The section is from the temporal bone of a gentleman, aged forty-five, who was brought to me in June of the present year on account of what he described as a slight malaise in the right ear, with deafness and a circulatory noise, the symptoms having commenced at the end of April. There was considerable swelling of the subcutaneous tissue in the meatus, and the case seemed to be an aggravated one of acute external otitis. Under leeching and the local application of diluted glycerine of carbolic acid, some improve-

ment took place, and when I saw him again in July there was less feeling of tension. The patient seemed fairly comfortable, but at night he could only sleep when sitting up on a chair. By means of a bent probe inserted after cocainization, it was possible to touch a small area of bare rough bone on the posterior wall of the meatus. The patient then proceeded to the Continent, with the intention of shaking off his ailment and re-establishing his general health. During his whole period of absence he suffered from disturbed nights, but with few other symptoms. Again I had an opportunity of seeing him towards the end of September. I found a well-marked boggy swelling over the mastoid, in the supra-auricular parotid and infra-auricular regions. The meatus was almost occluded by a swelling of the walls, and by means of a bent probe I could, as before, touch the denuded area on the posterior wall. There was remarkably little visible granulation tissue. The case appeared, then, to be one of necrosis of the temporal bone, and the mastoid operation seemed imperative. I carried this out, and found the posterior wall of the cartilage in the meatus completely eroded and replaced by granulation tissue. There was a deep eroded depression on the posterior wall of the osseous meatus, extending into the mastoid cells. The bone was soft, dark in colour, and cancellous in structure. I removed this very freely by means of gouge-forceps, chisel, and sharp spoon, and forwarded the tissue which I removed to Mr. Cole for microscopical preparation. The report, which I fully expected to be one of sarcoma, turned out to be a well-marked epithelioma, which is now under the microscope. Contrary to my expectation, there is as yet no fungation of the edges of the mastoid incision, and the patient has enjoyed an amount of relief from pain to which he had been a stranger for many months. He is still very comfortable, although the increasing induration over the mastoid region, as well as a difficulty in the movement of the temporomaxillary joint, leave little doubt that the malady is slowly but steadily extending.

Mr. WYATT WINGRAVE thought that the bone must have been involved secondarily, the growth evidently commencing in an epidermal region.

Mr. BARK (Liverpool) mentioned that he had recently seen an almost similar case.

Dr. WHISTLER showed *An Instrument for measuring accurately the Length of Osseous Outgrowths in the Nasal Fossa.*

This instrument had been devised by him, and was made for him by Messrs. Meyer and Meltzer about seven years ago.

Although Dr. Whistler had not brought it to notice before, he had used it frequently, and found it a very helpful guide in operations for the removal of these obstructions in the nose. The instrument consists of a measuring rod, with two upright bars, which slides antero-posteriorly in a grooved cannula, upon which there is a scale. To the proximal extremity of the sliding-rod there is affixed a small wheel for fine adjustment.

Mr. ST. GEORGE REID showed for Dr. Orwin a useful apparatus for applying continuous heat to the throat, nose, ear, or other parts of the body. It consists of a suitably shaped coil of rubber tubing attached to a water-reservoir over a spirit lamp, which can be kept at a constant temperature by an ingenious automatic regulator.

Dr. P. ABERCROMBIE. *A Case of Laryngeal Papilloma with apparent Defect of the Posterior End of the Left Vocal Cord.*

At a meeting of this Association, held on April 28 last, I showed a boy, aged nine years, who had enlarged tonsils and adenoid growths causing nasal obstruction, and from whose larynx I had removed a papilloma on December 24, 1898.

Recurrence of the growth was noticed for the first time on April 22, 1899, six days before the meeting, and nearly four months after its removal; but the patient's voice remained unaffected. During these six days a distinct increase in the recurrent growth was observed to have taken place.

The tonsils and adenoids were removed by me on May 1, three days after the meeting, in the hope that by the establishment of free nasal breathing a main source of laryngeal irritation would be got rid of, and that the tendency to recurrence of the laryngeal growth might be arrested, or perhaps even the small portion present altogether disappear.

Six weeks after the tonsillotomy, there was no increase in the recurrent growth, and the operation had proved very beneficial to the general well-being of the patient: his night-rest was undisturbed, and his breathing natural; he no longer talked in his sleep, nor had he any more headaches, as had previously been the case.

Towards the end of last August the patient had an attack of jaundice, attributed to his having eaten too freely of apples!

On September 2, 1899, the laryngeal growth was observed to have increased, though not very markedly, this date representing an interval of four months since the tonsillotomy. The boy's voice, however, was not changed for the worse, and both he and his parents were astonished when I informed them that the growth had enlarged. Mr. Lennox Browne saw the patient with me at

this time, and advised the local application of an aqueous solution of chloride of zinc. This was done some sixteen times in all, at intervals of one or two days, at first of a strength of 15 grains, and later of 30 grains to the ounce. This painting was followed by improvement in the local condition, which was continued and confirmed under the use of a solution of salicylic acid in rectified spirit and glycerine, of a strength of 10 grains to the ounce, as advised by Dr. Dundas Grant, and which was substituted for the zinc.

Although it is not possible to say that in this instance the removal of the nasal obstruction has resulted in the absorption of the fresh growth observed previously to the procedure adopted for that purpose, it has evidently retarded the neoplastic development, and has, I think, assisted in the effectiveness of the astringent applications.

I intend to continue the use of the local applications, and I believe I am justified in looking forward to a complete cure. I shall watch the case, and, if necessary, report upon it at a future meeting.

The boy is here to-day for examination, and it will be observed that although the left vocal cord is not quite normal, there is no longer any prominence that could be removed by an instrument. The voice, though somewhat weak and small and a little breathy, is of almost pure tone, and is said to be improving by his parents, who consider it already quite satisfactory.

A microscopical section of the papilloma removed is exhibited on the table, together with a coloured drawing of the larynx as it appeared on April 22 last, and for which I am much indebted to the kindness of Mr. Lennox Browne.

Dr. TRESILIAN showed *A Case of New Growth in the Left Maxillary Antrum in a Child Thirteen Years of Age*.

There were no symptoms with it, and it had increased in size gradually for a period of nearly three years. It caused some narrowing of the left inferior meatus behind, but the chief bulging was outwards. There was no history of any nasal disease before the appearance of the growth. It felt quite hard, and there was no thinning of the outer wall of the antrum. The diagnosis could only be settled by exploratory puncture. The disease was probably either a cyst or a bony growth. Dr. Tresilian promised, after exploration, to refer to the case at a future meeting.

Mr. BARK recommended transillumination and exploratory puncture to insure correct diagnosis prior to any operation.

Dr. DENNIS VINRACE considered the growth to be an exostosis of the superior maxilla near the malar process. The growth had probably existed longer than the time supposed, viz., three years, but not noticed, and was non-malignant. No treatment is indicated or justifiable unless further development ensued.

Dr. TRESILIAN read notes of (1) *A Case of Anosmia from Head Injury*.

Mrs. D——, aged twenty-two years, first seen in November, 1898. The previous September she had a fall from a trap, her head striking the ground. She was unconscious for a few hours, and was dazed, and had great headache and pain down her neck for some days afterwards. Within a few days of the accident she found that she could neither taste nor smell. The sense of taste returned in a few days, but her sense of smell has been lost ever since, and, moreover, she is always conscious of a sensation of a nasty smell which she describes as like "bad hops." On testing her taste with quinine, sugar, etc., she was quite correct, but she could not recognise any odours. Her fifth nerve was uninjured, as ammonia made her wince, and her eyes teared; and on touching the nasal mucosa with a probe she felt it everywhere, and it tickled. She complained of frontal headache behind the eyes. The retinae and discs were normal, and there was no history of orbital discoloration. Both nostrils were equally affected. The treatment adopted was internal administration of strychnine and the use of the constant current. Seen again in July and September of this year, her condition was just the same, and there was no improvement. The condition must be due to injury to the olfactory bulbs, with laceration, and perhaps partial separation.

(2) *A Case of Severe Bilateral Acute Otitis with Facial Erysipelas*.

A woman, aged forty, had a sharp attack of erysipelas of the face, which extended to the lobules and adjacent parts of the auricles on both sides. The external meati were normal, and so were the nose and throat. She suddenly had intense pain in both ears for twenty-four hours, and complained of noises, like cannons firing off, in both ears. She was nearly maniacal from the pain and noise. On the second day there was profuse discharge of blood from both ears, followed by a constant free flow of pus. The ears were cleaned out antiseptically, and double perforations were visible. The perforation on the left side was visible and audible on inflation for over a week after the attack had subsided. She made a good recovery. The interest of the case was that such

violent acute mischief should occur bilaterally in erysipelas without extension inwards through the meati, or by the Eustachian tubes from throat or nose. The infection must therefore have been through the blood current.

Mr. BARK said that these cases, as might be expected, were always violent in character, the suppuration often rapidly extending to the mastoid antrum and cells, and even to the cranial cavity.

Dr. JAKINS. *Case of Malignant Growth of the Larynx.* Shown by Mr. NOURSE.

T. H——, male, aged fifty-four years, a foreman mechanic in the steamsheds of the Brighton railway, whose occupation involved much loud talking and shouting in an atmosphere full of cinder-dust, came under my care at the Central London Throat and Ear Hospital last month, complaining of gradual loss of voice of twelve months' duration, following an attack of influenza.

Personal History.—Twenty years ago, whilst playing the cornet, he broke a bloodvessel, and was under treatment at the Sussex County Hospital for three or four weeks. Since then he has given up playing wind-instruments, and has never had any return of hæmorrhage. He had rheumatic fever two and a half years ago. Has been married thirty-three years. There is no history of venereal disease. The family history is good.

The patient now weighs 8 st. 6 lb. He has been losing flesh for the last three or four months. His voice is very hoarse, and completely goes after a time. There is no dyspnœa or dysphagia, and no pain.

Larynx.—A grayish, sausage-shaped growth is observed upon the right cord, resting on, and apparently springing from, the middle of its upper surface. The right vocal cord is not completely fixed. The left cord is reddened. There is impaired movement and flattening over the left side of his chest, with crepitations at the apex and tubular breathing; also at the base. The right lung is normal.

Heart.—The apex-beat is displaced half an inch outside the nipple-line. Urine free from albumin.

The sputum was kindly examined by my colleague, Mr. Wyatt Wingrave, who reports that he could find no tubercle bacilli. Staphylococci and streptococci were numerous. Numerous epithelial squames, with very active nuclei.

A few days later the chest was examined again. At the lower end of the scapula, on the left side, there were coarse crepitations and whispering pectoriloquy.

The patient was also kindly seen by my colleagues, Mr. Lennox Browne and Dr. Dundas Grant.

In view of the condition of the chest, no operation was undertaken.

Suppuration of the Maxillary Antrum treated by Alveolar Opening and Irrigation. Shown by Mr. WYATT WINGRAVE.

The patient, a female, aged sixty-five, had an upper molar tooth extracted about twelve months ago. Several days afterwards she suffered considerable pain and discharge from the left nostril, which had persisted, and for which she sought relief.

On examination, a small sinus was found at the site of the first molar; it only admitted the finest aural probe, which passed into the left nostril, whose middle and lower meatus contained pus.

The sinus was enlarged by means of a drill trephine, driven by a dental engine, and irrigated with sodium sulphate and biniodide of mercury. At first the effluent was creamy and fetid, but in one week became clear and sweet. There is now no discharge from either end of the sinus.

One interesting feature of the case is that the depth and direction of the sinus is suggestive of a course which escapes the maxillary antrum similar to one recently experienced by the writer.

Case of Aural Exostosis removed by Drill Trephine. Shown by Mr. WYATT WINGRAVE.

The patient, a woman, aged thirty-four, complained of gradually increasing deafness of several years' duration, without pain or discharge at any time.

On examination, a shiny swelling, about the size and colour of a dry pea, was seen attached to the anterior wall of the right meatus, about half an inch from the tympanic membrane, at the osseo-cartilaginous junction.

Under eucaïne, the soft tissue was removed, and the exostosis drilled with a 4-millimetre trephine, driven by pedal-motor, in about four minutes. The patient bore the operation well, and a week later healing had taken place, when the tympanic membrane could be seen perfectly normal, and the hearing quite restored. Whether the improvement in condition was due to the operation or to the quinine it was difficult to decide.

She certainly had diminished air and increased bone conduction, which disappeared. The exostosis was of the eburnated variety, and was probably congenital in origin, as it occupied the usual site on the tympanic bone.

Abstracts.

DIPHTHERIA, Etc.

Armstrong, J. R.—*The Use of Diphtheria Antitoxin in General Practice, with the Results of the Treatment of 122 Cases of Diphtheria.* "The Lancet," March 4, 1899.

This paper is written in view of the author's opinion that the general practitioners of the day do not employ antitoxin as often as they ought to do in the treatment of diphtheria, and do not seem to recognise the value of the sovereign remedy which they have at their disposal.
StClair Thomson.

Bolton, Charles.—*The Complications of the Serum Treatment of Diphtheria.* "The Lancet," April 1, 1899.

These complications are the following: rashes, pains in and around the joints, fever, transient albuminuria, abscess, bruising, and sloughing at the seat of injection, and certain constitutional disturbances.

In conclusion, one may say that the complications of antitoxin are at times very painful and inconvenient, but quite harmless, the only exception being one case in which sloughing occurred, and in that case the child was in an exceedingly bad condition, as the result of scarlet fever and diphtheria combined, when the antitoxin was administered.
StClair Thomson.

Tonkin, A. J.—*Two Hundred Consecutive Cases of Diphtheria treated with Anti-diphtheritic Serum.* "The Lancet," October 21, 1899.

This study is illustrated by a series of interesting tables showing the mortality according to the situation of the membrane, according to age and sex, in relation to day of illness on which antitoxic treatment was begun, etc.: also tables showing the amount of albumin cases, the frequency and mortality of tracheotomy, etc.

The foregoing figures and statements tend to establish the following results as to the use of antitoxin: 1. The general mortality rate is reduced. The mortality for cases treated during the first three days of illness is reduced to about 3 per cent., and that for all other cases to about 12 per cent. 2. Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. 3. The tracheotomy mortality is very much lessened. 4. There is less need for tracheotomy if treatment be begun early. 5. All ages and both sexes are equally affected. 6. The chances of nephritis are lessened. 7. When treatment is begun early albuminuria may not appear, will probably not be severe, and will disappear soon. 8. Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. 9. Extension of disease to the larynx and parts below was not noted after injection of antitoxin. 10. The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment.
StClair Thomson.

MOUTH, Etc.

Bosquier.—*Ultero-Membranous Angina, with Fusiform Bacilli on a Tonsil affected with Chronic Hypertrophy.* "Journ. de Clin. et Ther. Infantile," May, 1899.

The author publishes the case of a youth, aged fourteen, affected with angina, with slight fever, one tonsil presenting the appearance of an ulcero-membranous angina. The exudation was of considerable thickness, slightly adherent and covering an anfractuous ulcer. Bacteriological examination confirmed the presence of micrococcus tetragonus, some streptococci, some spirillæ, and lastly the fusiform bacilli described by Vincent. *A. Cartaz.*

Froisart.—*Gummata of the Tonsils.* University Thesis, Lille, 1899.

Tertiary syphilitic lesions of the tonsils are, in the opinion of the writer, rather rare. Gummatus ulceration of the tonsils has a characteristic appearance, that of a hollowed-out wound, circular in form, with sharply punched-out edges surrounded by a hard, infiltrated, red and prominent areola. Generally unilateral, it is found most frequently on the right side. It is painless at first, but afterwards becomes difficult to tolerate, and when the ulceration reaches the pillars of the fauces the dysphagia may be intense.

Non-ulcerated gummata, or gummata with quite superficial ulceration, are rather more rare than the ulcerated ones. *A. Cartaz.*

Jones, Robert.—*Foreign Bodies in the Pharynx and Œsophagus.* "The Lancet," May 6, 1899.

The article is a consideration, with some personal experiences, of the guiding principles in the treatment of foreign bodies in the upper food passages. From a study of his own cases of œsophagotomy and a perusal of general results, the author submits the following conclusions: (1) That bodies which have lain for some time and given rise to symptoms of obstruction, irritation or dyspnœa should be operated upon without delay; (2) that forcible attempts at extraction by the mouth are to be condemned; (3) that sharp or irregular impacted bodies specially demand œsophagotomy; (4) that in certain cases gastrotomy is indicated and in some a combination of gastrotomy and œsophagotomy; (5) that where the wound in the œsophagus is jagged or its walls inflamed no stitches should be used; (6) that the routine practice where the œsophageal wound is clean cut is to stitch it up with a continuous suture, care being taken, as in the case of the intestine, not to pierce the mucous coat; (7) that only in very exceptional cases, where no danger of suppuration and infection exists, should the external wound be closed; and (8) that liquid food may be given by the mouth in about twenty-four hours after operation.

StClair Thomson.

Malherbe, Henri.—*Lingual Tuberculosis.* "Gaz. Méd. de Nantes," July 8, 1899.

Sailor, thirty-two years old. No syphilis, nor excess in tobacco or alcohol. The disease appeared five years ago by little patches on the tongue, with alternative periods of improvement and relapse. The anterior two-thirds of the tongue were smooth and glossy, as if varnished; the papillæ seemed to be completely absent, and on that part there appeared a series of little red papules, with yellow vesicular

points. These papules were the size of a pea, and contained a sero-purulent fluid, and after evacuation a liver-red ulceration was left, which healed without any apparent scarring.

A bacteriological examination of the pus has not revealed Koch's bacillus; but the author believes it is tuberculous. On the hands of the patient has had similar patches and papules.

A. Cartaz.

Monmarson.—*A Study of Rheumatism of the Pharynx.* "Journal de Médecine de Paris," May 14, 1899.

The author relates three cases of rheumatismal pharyngitis, which present two distinct forms—diffuse and local. The diffuse form extends laterally, and in the prevertebral region, to all the pharyngeal muscles; probably the inflammation is also in the cervical vertebræ. In the localized form, the articular surfaces are particularly affected with the fibrous periarticular tissue. The objective symptoms are absent, but it is more or less painful, with dysphagia. The iodine treatment is efficacious.

A. Cartaz.

Schneider, G.—*Angina with Fusiform Bacilli.* "Presse Méd.," June 17, 1899.

The author relates a case of ulcerative tonsillitis presenting an appearance of syphilitic ulceration, and rapidly cured by local treatment. In the exudate were found a number of fusiform bacilli with spirilli.

A. Cartaz.

Walsham, Hugh.—*A Note on the Occurrence of Epithelial Pearls in the Tonsil.* "Lancet," April 29, 1899.

The late Professor Kanthack,* in an interesting paper, called attention to the occurrence of epithelial pearls in the tonsils of human fetuses and new-born infants, and pointed out that they occurred as retentions and not as embryonic inclusions. Professor Kanthack, in a later paper, published in the *Journal of Anatomy and Physiology*, vol. xxvi., brought forward weighty arguments against the pearls which are found in the mid-line of the palate, and in the other places being due to inclusion products, as described by Mr. Bland Sutton in his lectures on Evolution in Pathology. The occurrence of these epithelial pearls in the tonsils of adults is not altogether rare, and while making some observations on the occurrence of tubercle in the tonsil the author met with three very good specimens in the tonsils of men aged twenty-seven, thirty-one and thirty-five years respectively. The occurrence of these pearls in the organ is of interest, because there can be no doubt that they are the origin of at least some of the so-called tonsil calculi. The centre of these pearls shows no definite structure; it is only on carefully examining the periphery that we see that they are composed of horny, squamous epithelial cells pressed tightly together. They bear a very close resemblance to the epithelial cell nests found in some of the epitheliomata. These pearls are clearly retention products, and cannot possibly be due to epithelial inclusion, as no fusion of epithelial surfaces takes place in the tonsil. Their occurrence, as before said, is not altogether rare, but these are the only three examples met with out of 150 post-mortem examinations of tonsils made with reference to this point. Professor Kanthack once informed the writer that since 1889 he had fairly often observed epithelial pearls in the tonsils at all ages. But in addition to these

* Kanthack, *Illustrated Medical News*, November 9th, 1889.

retention pearls we find epithelial accumulations in the adenoid tissue of the tonsil which apparently has not before been described. They are mostly to be found in the centre of one of the closed lymphatic follicles, and have no connection with the epithelium lining the tonsillar crypts. According to Professor Retterer,* both the ectoderm and mesoderm take part in the formation of the tissue composing the closed follicles of the tonsil. He says the tonsil is formed by epithelial involutions and swelling of the mesoblastic tissue, then by the formation and detachment of terminal epithelial buds. The closed lymphatic follicles are formed by the formation round these buds of lymphoid tissue. As life advances this central epithelial accumulation disappears. Specimens of tonsils from young persons show these epithelial accumulations in the centre of the follicles. They cannot, therefore, be regarded as either retention or inclusion products, but the writer thinks that they are produced by the normal evolution of the organ.

StClair Thomson.

N O S E.

Ball, James B.—*Paroxysmal Sneezing and Allied Affections.* "The Lancet," February 11, 1899.

This is a general consideration of the subject, to a great extent founded on the personal experience of 112 cases. One of these patients once counted the number of sneezes, and found that she sneezed 294 times consecutively. The number of pocket-handkerchiefs used may amount to twelve or thirteen a day. Exactly one half, i.e., fifty-six, of the author's patients suffered from definite asthmatic attacks. Of the 112 patients there were fifty-nine males and fifty-three females, so that the sexes are pretty evenly divided. The majority of patients presented themselves between the ages of twenty and forty, but the disease as a rule develops in the earlier period of life, although it may begin at any age. After considering the local conditions which sometimes accompany the affection, and its general progress, he reviews the treatment by the galvano-cautery, chromic acid, or surgical measures for intra-nasal treatment. Of internal treatment he mentions quinine, belladonna, arsenic, and iodide of potassium. He frequently employs a pill containing 1 grain of sulphate of quinine, $\frac{1}{16}$ of a grain of iodide of arsenic, and $\frac{1}{12}$ of a grain of extract of belladonna, to be taken three times a day, the arsenic and belladonna to be increased according to tolerance. He also employs cocaine, menthol, and menthol-camphor intra-nasally.

StClair Thomson.

Chauveau, C.—*Nervous, Cardiac and Digestive Troubles in Ozæna.* "France Médicale," April 14, 1899.

The author found in eleven of sixty-five cases of ozæna nervous heredity, with degenerative symptoms. He believes the ozæna is probably of trophic origin rather than from various bacteria described.

The cardiac troubles have been noted by some physicians. Chauveau found two cases of pseudo angina pectoris, ten cases of palpitation, frequently some cardiac failure; these troubles were usually of reflex origin. Six times only were they true cardiac lesions.

* Retterer: "Origine et Évolution des Amygdales chez les Mammifères," *Journal de l'Anatomie et de la Physiologie*, 1888.

The author believes the digestive troubles are more frequently of reflex origin than occasioned by ingestion of purulent and fetid discharge.

A. Cartaz.

Toulouse and Vaschede.—*Asymmetry of the Sense of Smell.* "Soc. de Biologie," Oct. 14, 1899.

It results from the researches of various authors that four-fifths of all subjects perceive odours better by the left than the right nostril. This difference appears to be attributable to the predominance of the action of the left cerebral hemisphere, as the olfactory nerves do not decussate.

A. Cartaz.

LARYNX.

Courtade.—*On Compression of the Trachea by an Aneurism of the Arch of the Aorta simulating Paralysis of the Abductors of the Glottis.* "Journal des Praticiens," Oct. 14, 1899.

The writer describes a case of aneurism of the aorta in a man forty-five years of age, who suffered for about five or six months from dyspnœa. During rest respiration was calm, but dyspnœa came on as soon as he walked about. The dyspnœa and the accompanying "tirage" suggested the presence of paralysis of the dilators. On laryngoscopic examination nothing of the kind was to be seen. The case was one of compression of the aorta by an aneurismal sac.

A. Cartaz.

Pitres.—*Treatment of Exophthalmic Goitre by Injections of Iodoform Ether.* Congrès Français de Médecine, Lille, August, 1899.

Many of the accidents of exophthalmic goitre are dependent upon the troubles of secretion of the thyroid gland. For improving that modified secretion, Pitres has experimented with injections of iodoform ether in the parenchymatous parts of the thyroid. Ten cubic centimetres are injected every week. The reaction is painful, but not for a long time. Little by little the nervous symptoms diminish, sleep is improved, the exophthalmos gradually disappears.

In ten cases the author has had six complete cures, and for two years there has been no recurrence.

A. Cartaz.

E A R.

Lake, R.—*Deaf-mutism: An Attempt to explain the Occasional Cure following Removal of Adenoids.* "Treatment," August 24, 1899.

Deaf-mutism is congenital or acquired. Congenital cases are sufferers from developmental errors—central, peripheral, or of the connecting structures. Acquired cases are due to (a) central lesions caused by meningitis (some are not improbably genuine cortical lesions); (b) panotitis during one of the fevers; (c) dysacusis. By this term the author proposes to designate the condition of the small class of deaf-mutes whose ears do not properly perform their function, partly because of real deafness due to Eustachian obstruction, partly because of aprosexia. These conditions, being due to adenoids, disappear when the adenoids are removed. Such deaf-mutes therefore are curable. The author describes a striking instance of such a cure.

Arthur J. Hutchison.



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